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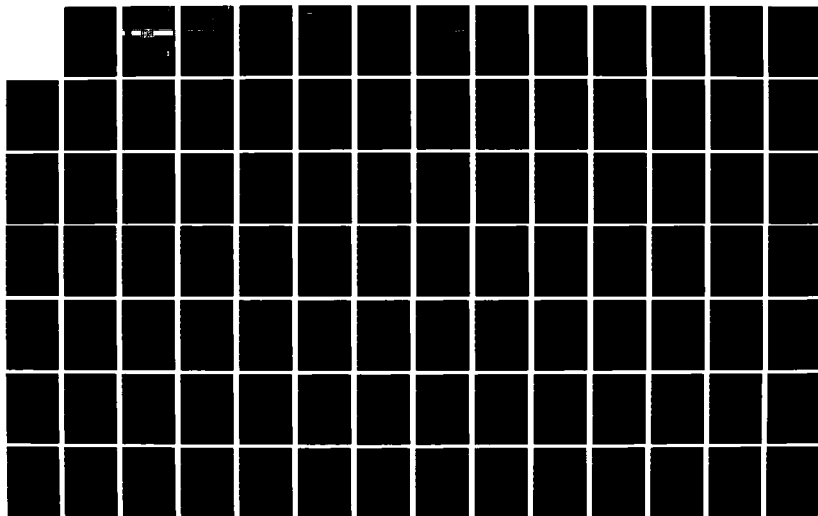
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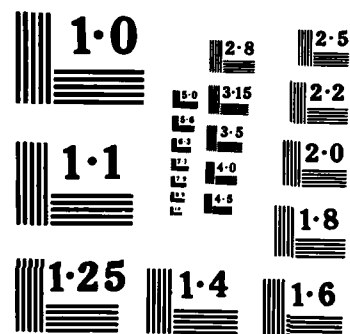
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# AIR POWER SYMPOSIUM

11-13 MARCH 1985

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## THE ROLE OF AIR POWER IN LOW INTENSITY CONFLICT

APPENDIX 3  
SYMPOSIUM PAPERS

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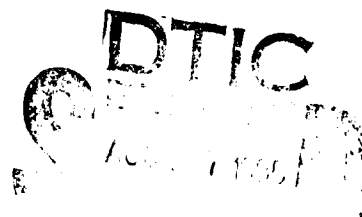
**THE NINTH AIR UNIVERSITY  
AIRPOWER SYMPOSIUM**

**11-13 March 1985**

**THE ROLE OF AIRPOWER IN LOW INTENSITY CONFLICT**

**APPENDIX 3 to the PROCEEDINGS  
AUTHORS' PAPERS OF SESSION III**

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USAF FORCE DEVELOPMENT

FOR

LOW INTENSITY CONFLICT

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USAF FORCE DEVELOPMENT  
FOR  
LOW INTENSITY CONFLICT

INTRODUCTION

A review of almost any contemporary forecast of the international scene over the next 20 years results in basically the same conclusion: armed conflicts will continue to occur, but will be confined to what is generally referred to as the "lower levels". These conflicts will remain low level because extensive resources are being expended to ensure that higher levels do not occur. Indeed, as Ambassador Robert Komer recently stated in Armed Forces Journal concerning the likelihood of a European conflict, "... [it is] remote precisely because we and our Allies invest so much in keeping it so..." (1:128).

On the other hand, the United States' propensity for getting involved in almost every armed conflict that has occurred in the past 20 years (granted, not always using the military instrument of power) bodes future US involvement in these lower level armed conflicts. It is imperative, therefore, that the US military ensures its forces are adequately organized, trained and equipped to successfully achieve national security objectives in these types of conflicts. As a critical component of US military power airpower will play a key role in these future conflicts. It also must be adequately organized, trained and equipped to

successfully conduct operations at the "lower levels".

This paper provides an insight into airpower's role in low intensity conflict and shows how the United States Air Force goes about developing and acquiring force structures to meet airpower requirements across the spectrum of conflict. Additionally, an assessment is made of how well that process works. The paper also provides some recommendations designed to improve both the process and airpower's ability to be a decisive component of the military instrument of power when employed at the lower levels of conflict.

#### LOW INTENSITY CONFLICT

Any discussion of airpower requirements for low intensity conflict must begin with a clear understanding of what is meant by the term. Dr. Sam Sarkesian in his book US Policy and Low Intensity Conflict defines it as:

... the range of activities and operations on the lower end of the conflict spectrum involving the use of military or a variety of semi-military forces (both combat and noncombat) on the part of the intervening power to influence and compel the adversary to accept a particular political-military condition (2:3).

Two key points arise from this definition. First, the conflict encompasses a "range of activities and operations". It is not limited to a particular subset of warfare; rather, it involves any and all of the critical tasks necessary in warfare. Secondly, it involves the use of military or paramilitary forces on the part of the intervening power. From the viewpoint of the United States as the intervening power, we

define this type of conflict as low because we limit the number and types of resources allocated to the conflict relative to general war (i.e., European or Korean conflict) capabilities.

Eliot Cohen provides an additional perspective. In his article, "Constraints on America's Conduct of Small Wars", he makes the case that there is nothing "limited" or "low-level" in the type of warfare referred to as low-intensity conflict (3:151-154). Rather, the conflict is total warfare in its intensity for those involved; the "Great Power" involved, however, limits the resources it uses relative to those at its disposal. Cohen supports the British position that these conflicts are then more appropriately termed "small wars" (3:152).

Equally important to an understanding of low intensity conflicts are some of their macro-level characteristics. Cohen characterizes these "small wars" as having relatively little international importance, long duration, occurring in remote corners of the world, usually with undesirable climatic conditions, occurring suddenly with little, if any, force mobilization and being primarily light infantry wars (3:152-166). Indeed, our own experiences in Korea and Vietnam, as well as those of others in Africa, Afghanistan and Central America, tend to support his observations.

Low intensity conflict then, within the context of this paper, is a localized small war; total in terms of the range of tasks that can occur, yet restricted in terms of the level of resources applied to its resolution. Furthermore, it will most



likely be of extended duration in environments (cultural, climatic, political, etc) quite unlike those of the United States. Given this perspective, we can now address aviation support requirements for low intensity conflict.

#### AVIATION REQUIREMENTS

The primary aviation task in low intensity conflict is providing responsive mobility to ones engaging elements. Indeed, as history has shown, the key to successfully waging low intensity conflict is to give the impression that ones forces are everywhere, whether engaging the enemy or merely showing a presence for the morale of the people. Major Brian Maher supports a similar position in his report on aircraft requirements for low intensity conflict:

... the time dimension becomes as important as the objective in defining tactics and operations. The result is a fluid battlefield where forces are rapidly transported into the engagement, a limited objective obtained and the engagement broken off. This requires...a highly mobile, self-sustaining force...(4:15)

The key requirement is ensuring that ones engaging forces meet with the enemy, keep them off balance, and deny them any sanctuary. In his "Perspectives on Air Power", Colonel Kenneth Alnwick traces the history of airpower in low intensity conflict and shows how its use as a mobility asset played a key role in many operations: the British expedition in the Middle East during the 1920s; the United States Marines in Nicaragua in the 1930s; special operations support in both the European and China-Burma-India theaters during World War II; the campaign against

the Huks in the Phillipines in the late 1940s and early 1950s; the French experience in Algeria in the late 1950s; and of course our own experience during the Vietnam conflict (5:17-28). In almost all cases, airpower, providing mobility to the engaging forces, was instrumental in ensuring successful tactical operations in each of these conflicts (and, in some, it was the key to eventual victory).

Additional uses of airpower include resupply of the engaging forces, aeromedical evacuation and use as a platform for psychological operations. Airpower in low intensity conflict goes beyond basic airlift functions, however. As in other levels of warfare it is used for close air support, interdiction, intelligence collection (reconnaissance), airborne command and control, search and rescue, airborne strike control, etc. In essence, virtually every function which the United States Air Force (USAF) is capable of performing in general (global) war has some applicability to low intensity conflict. Our experience in Vietnam demonstrated this very clearly as almost every non-nuclear weapon system was employed at one time or another. Again, as discussed earlier, the key factor in keeping these conflicts "small", "low level" or "limited", is merely the magnitude of involvement on the intervening power's part, not necessarily a limitation on the types of airpower tasks undertaken.

Having developed a perspective for the environment of low intensity conflict and having reviewed what airpower support

requirements are contained therein, we can now look at how the US Air Force develops and acquires force structures to meet these airpower requirements across the spectrum of conflict.

#### USAF FORCE STRUCTURING

From the preceeding discussion it is apparent that two major philosophies for developing force structures can emerge. On the one hand, one can provide sufficient forces to meet all tasks expected at each level of conflict. This could involve, for example, a dedicated peacetime counterterrorism force, a dedicated counterinsurgency force, a dedicated bilateral conventional war force, etc., all the way through a separate force dedicated only to nuclear warfare. On the other hand, one can develop task oriented forces (e.g., counterair, interdiction, airlift, bombers, etc.) and then ensure they are capable of operating across the spectrum of conflict. The Air Force's doctrinal and organizational biases tend to force it into the latter approach for force development.

AFM 1-1 defines the Air Force's fundamental role as "...preparing aerospace forces to accomplish these missions: Strategic Aerospace Offense; Strategic Aerospace Defense; Counter Air; Air Interdiction; Close Air Support; Special Operations; Airlift; and Aerospace Maritime Operations" (6:3-2). Furthermore, the following specialized tasks "enhance the execution and successful completion of Air Force missions: Aerial Refueling; Electronic Combat; Warning, Command, Control, and Communications; Intelligence; Aerospace Rescue and Recovery;

Psychological Operations; and Weather Service" (6:3-6).

Interestingly enough, almost every aviation task discussed above as being required in low intensity conflict is mentioned here as either a basic Air Force mission or specialized task.

This doctrinal foundation of the Air Force carries over into the major organizational structure of its Air Staff. As can be seen from Figure 1, almost every major organizational entity is structured by mission area. Thus, not only is its doctrine oriented by tasks vice levels of conflict, so also are its functional staff organizations which are responsible for organizing and equipping the forces. These two perspectives, doctrine and organization, orient how the Air Force looks at procuring those assets needed to accomplish required airpower tasks.

Each mission area attempts to develop and obtain those airpower assets necessary to accomplish the tasks assigned to it. Implied in that approach is the mission area's responsibility to ensure its tasks can be accomplished across the spectrum of conflict with the assets identified as being needed. On an annual basis, each Air Force Major Command (MAJCOM) submits its Minimum Risk Force (MRF) requirements to the Air Staff. This force represents the assets required to achieve national security objectives with a virtual assurance of success. Each of the force planning divisions within the Air Staff Directorate of Plans, Deputy Directorate for Force Development (XOXF in Figure 1), uses the MAJCOM MRFs as a

Air Force Board	Plans/Force	Programming/Forces Research and	Operations/
<u>Structure Panels</u>	<u>Development (XOXF)</u>	<u>Division (PRPF)</u>	<u>Development(RDQ)</u> <u>Forces (XOO)</u>
Strategic Offense	Strategic Offense	Strategic	Strategic
Strategic Defense	Strategic Defense	Tactical	Tactical
Tactical	Tactical Forces	Mobility	Airlift
Electronic Combat	Airlift Forces	Missile	Airlift & Rescue
Reconnaissance	Munitions		Reconnaissance
Mobility	Reconnaissance		Tactical Command & Control
			Special Operations

Figure 1. Air Staff Organization by Mission Area

departure point in developing their Planning Forces (PF). The Planning Forces provide a reasonable assurance of success in meeting stated national security objectives. Whereas the MRF is a statement of a theater's requirements, independent of other theaters, the PF prioritizes objectives between theaters, sequences force employment between them, and accepts an increased level of risk relative to the MRF.

Each force development division presents its discrete planning force to its respective Board Structure Panel (see Figure 1). Once concurrence is given to each of the discrete planning forces, the Force Structure Committee consolidates all mission areas into the Air Force's Planning Force. This force represents a baseline planning goal and is used, among other things, to measure the pros and cons of subsequent programming deliberations for the fiscal year under consideration. Each MAJCOM also reviews the Air Force Planning Force and their concerns are incorporated into the current and, of course, subsequent planning forces.

It is through this process, then, that future force structure requirements are identified, defined and entered into the planning, programming and budgeting system. Unfortunately, there are many who argue that this approach to force development is lacking in the area of low intensity conflict.

#### FORCE ASSESSMENT

Dr. Sarkesian assesses US military capability to conduct operations at levels below limited conventional war as adequate

to poor and US credibility as low (1:6). Poor grades are given across the spectrum from the introduction of special forces teams for training indigenous forces to a Vietnam-style conflict. Likewise, Colonel Alnwick questions the ability of today's Air Force Special Operations Force (AFSOF) to conduct operations throughout the spectrum of mission tasks required in low intensity conflict (5:27-28). One can logically ask then, why does the process not work satisfactorily? There are three major culprits: strategy development, the changing institutional perspective of the AFSOF, and the force development process itself.

The most detrimental factor towards achieving an adequate force structure is the lack of a well defined strategy for low intensity conflict. It begins with the lack of a precise grand strategy (i.e., the coordination of such national power instruments as economics, politics, the military, etc. (7:50)) at the national level. We have broadly defined objectives but lack area specific goals. For example, how do or should all the power instruments fit together in our current efforts in Central America? Lack of an area specific grand strategy impacts our ability to define a coherent military strategy (i.e., coordinating the development, deployment and employment of military forces (7:40)) for low intensity conflict. Military strategy should be developed at the Joint Chiefs of Staff and unified command levels and used as a guide by the Services in acquiring the proper force mix to achieve national security objectives.

The Air Force's "bible" on future strategy, Air Force 2000, is one means of attempting to translate military strategy into Service guidelines. It, however, is lacking in its utility towards low intensity conflict. It defines our military objectives in low intensity conflict as: "support US foreign policy initiatives; promote internal security; constrain escalation; and, deter interference by the Soviets or radical states" (8:86). What's missing are succinct statements of how airpower should be structured to ensure these objectives (which could just as easily be, and most likely are, statements of objectives at the grand strategy level) can be achieved. The Air Force's military strategy needs a clear statement of how it intends to develop, deploy and employ airpower at each stage of escalation within low intensity conflict. Without some clear idea of what is required to be accomplished, how can the adequacy of the forces being obtained be measured?

Finally, a battlefield strategy for low intensity conflict is lacking. This is a statement of how to employ forces on the battlefield to ensure successful accomplishment of our national security objectives (7:41). In most cases this is area specific and also developed at the theater level (i.e., by the unified commands). Personal visits to every unified command over the past year revealed little, if any, battlefield strategy for low intensity conflict. In their inputs to the development of the AFSOF Master Plan, virtually every command emphasized the employment of SOF in either "quick and limited duration" crisis



response engagements or protracted warfare under the Defense Guidance scenario. Few, if any, insights were given as to how the theater would execute a conflict on the scale described in the opening section of this paper. Lacking such a strategy, one can surely question the validity of our current and projected force structures and even the validity of the MAJCOM's minimum risk force submissions as they apply to low intensity conflict. (This is not intended to malign the AFSOF Master Plan or the Air Force's Planning Force, but rather to challenge their applicability to an environment in which they are far more likely to be employed than that for which they are being developed and acquired.) Perhaps, as Lieutenant Colonel Rudd suggests, this lack of a coherent and comprehensive battlefield strategy is caused by a "failure of military commanders to view strategy development and planning as a military staff function" (9:90).

The Services organize, train and equip forces for the conduct of prompt and sustained combat in the furtherance of national security objectives. Without a clearly defined strategy for low intensity conflict (by region or country, if necessary), it is doubtful that the Air Force will ever possess the proper mix of forces necessary to achieve successful military objectives short of a large scale conventional war type of victory. These impacts of strategy upon the force development process require some corrective action but this is not necessarily the only area in need of attention.

The Air Force's changing institutional perspective towards

the AFSOF is another key contributing factor. In 1967, the AFSOF included some 550 aircraft of various types, operating in 22 squadrons. These aircraft ranged from C-47s and B-26s to T-28s, C-123s, C-130s, OV-10s and A-1Es. Indeed, that AFSOF was equipped to provide airpower support for virtually any aviation task that might arise. Today the AFSOF has only 8 squadrons operating some 60 aircraft.

Obviously, there has been a dramatic shift in the philosophy underlying each of these force structure mixes. In 1967, the AFSOF was designed almost exclusively to be the air arm of low intensity conflict. An assessment was made of the aircraft required to operate in the conflict environment, a force was structured, and then subsequently dedicated to that arena. As we have seen, this approach to force development has changed over time to the point we are at today, one which many say is inadequate for low intensity conflict.

Basic Air Force doctrine provides a starting point for exploring why these forces might be inadequate. The 1984 edition states that "special operations objectives are to influence the accomplishments of strategic or tactical objectives normally through the conduct of low visibility, covert or clandestine military actions" (6:3-4). Today's AFSOF has a limited capability to achieve these objectives unilaterally. It has only 20 AC-130s for direct fire support (CAS and interdiction) and

only 4 EC-130s for performing direct psychological operations (furthermore, both of these assets may be of questionable utility in almost any conflict environment given their present logistical support posture). The bulk of the AFSOF consists of mobility assets which deliver the ground forces that today accomplish most special operations' mission objectives.

Recent events within the Air Force portend an even further divergence between the makeup of the AFSOF of 1967 and that of the future. On March 1, 1983 the Air Force's SOF and Combat Rescue forces were consolidated under the Military Airlift Command. The underlying rationale was to increase special operations combat capability by capitalizing upon the inherent similarities and potential synergism between these two mission areas. Additional benefits of consolidation were SOF centralization under a single MAJCOM (leading to the activation of 23 AF), expanded career opportunities for the personnel involved and an enhanced combat rescue capability.

Consider, however, how consolidation has moved the Air Force further from the AFSOF of the late 1960s. Its central spokesman is now a MAJCOM whose principal function is airlift, not tactical operations designed to accomplish "strategic and tactical objectives". Granted, as discussed earlier, the principal airpower role in low intensity conflict is force mobility in a tactical environment. However, as also shown, numerous other aviation tasks are required; specifically, CAS and interdiction. Certainly that capability (as limited as it is) exists in today's

AFSOF with MAC's AC-130s. But, looking out into the future, one must seriously question how much latitude the tactical air forces (TAC, PACAF, and USAFE) will allow MAC in pursuing development and acquisition of follow-on CAS/interdiction assets for use in low intensity conflicts (especially if designed around other than an airlift airframe). Some have even argued that the AC-130s were transferred to MAC more as a result of their being collocated with the other SOF assets rather than to increase special operations combat capability. The key point to be made is that the future will probably see more turbulence in the makeup of the AFSOF almost to the point where, not only is its principal function specialized, high risk airlift, but it also may well be its only function!

On May 22, 1984, another change in the makeup of the AFSOF occurred with the announcement of a Joint Army/Air Force initiative to transfer to the Army the responsibility for providing SOF rotary-wing support. It is ironic that this should occur so quickly after consolidation (less than 18 months) - a consolidation designed primarily to shore up SOF rotary-wing capabilities. However, of primary importance is the initiative's impact upon perceptions of what the Air Force's special operations forces do. The current philosophy is that now "the AFSOF does fixed-wing SOF". While this perspective creates few problems with today's forces, in the future it will beg the differentiation of emerging technologies into either a fixed-wing or rotary-wing classification.

As an example, where does this place aircraft like the JVX? In the eyes of the Air Force, it has, simply stated, transferred the helicopter support responsibility and that does not include the JVX. Yet confusion exists with the other Services as to what has really been transferred. The Army's burgeoning Aviation Branch now see its SOF aviation responsibilities as encompassing all vertical-lift support and, with it, the JVX. The Navy and Marine Corps see the Air Force, once again, on the brink of pulling out of the joint JVX program. With all four Services viewing this initiative differently, confusion will surely reign as the independent SOF aviation support programs are taken before Congress for funding support.

A final area contributing to the poor grades in low intensity conflict is the Air Force's force development process. The problem here centers on a preoccupation with the parts rather than addressing the issue as a whole. As Lieutenant Colonel Rudd writes

...a national emphasis on resource allocation rather than strategy has exacerbated the situation by forcing the individual services to reorient their attention and efforts inward on subsidiary issues of hardware, cost-effectiveness, and doctrine (9:92).

In essence, the low intensity area is funded more on the basis of available defense dollars rather than on recognition of its likelihood of occurring or the risks to national security interests. The fault lies primarily in baselining force development to the Defense Guidance scenario. Special operations forces play a key role in this conflict scenario but with an

entirely different operational focus than in low intensity conflict. Under the Defense Guidance scenario SOF is but a small piece of a much bigger pie. Furthermore, all mission areas (including SOF) require very expensive and sophisticated assets to ensure successful execution against a formidable threat array. The focus on "high-tech" weapon systems creates additional problems in certain low intensity arenas.

The foreign internal defense and security assistance missions within low intensity conflict open the argument for less sophisticated weapon systems that are compatible with the educational/technical backgrounds and economies of the developing countries being assisted. The argument also includes the need for compatibility between our systems and theirs. Given no fiscal constraints, this is probably a valid argument. However, one must recognize fiscal reality and then ask whether US military capabilities should be restricted in order to ensure that developing nations can effectively employ them. I think not. The first priority must be for the United States to be able to operate effectively and with a reasonable assurance of success before beginning to fund another nation's ability to do so. Today, the United States' ability to achieve success in low intensity conflict is so questionable that it dictates our developing systems necessary to enhance our operational capabilities even if at the expense of security assistance to other nations.

Another impact on force development is the Air Force's changing institutional perspective relative to the AFSOF. Following consolidation, all Air Staff SOF agencies received a "mobility" or MAC identification. The mobility panel, not the tactical panel, now oversees AFSOF programs. Additionally, most SOF force structure programs are not even being briefed to the tactical side of the staff, nor are they asking to be briefed. These actions further reinforce the perspective of the AFSOF providing only specialized airlift.

Consider, for a minute, that this perspective is correct. Who then should provide the necessary low intensity conflict aviation support for missions other than force mobility? Obviously, if the system works, each mission area should have the capability inherent within its force structure. Unfortunately, no one within the process today ensures that the proper mix of airpower forces is available to achieve national security objectives in the low intensity arena. This responsibility is assumed to be within the purview of the SOF community despite the institutional perspective of its mobility, rather than tactical, orientation. The tactical forces' orientation remains directed towards the larger scale European conflict.

In approaching low intensity conflict force development from a mission area perspective it also becomes questionable as to whether there remains a need for specifically highlighting the special operations mission in AFM 1-1. It would no longer represent a mission area. Rather, it would be the specialized

application of each mission area to a specific level of warfare. This approach, however, is contrary to the renewed emphasis being applied by the other Services, the Department of Defense and Congress towards revitalizing special operations forces and enhancing their applicability towards low intensity conflict.

The lack of a coherent strategy, at all levels, for conducting low intensity conflict, the Air Force's changing perspective towards the AFSOF and that perspective's impact upon the force development process all combine to raise serious questions about the United States' ability to provide adequate airpower support to low intensity conflict. Perhaps there is some truth to Cohen's assertions that:

The most substantial constraints on America's ability to conduct small wars result from the resistance of the American defense establishment to the very notion of engaging in such conflicts, and from the unsuitability of that establishment for fighting such wars ....The military leadership has determined never again to fight a war without public backing of the fullest kind, a public backing more appropriate to the conditions of world war than small war (3:165, 168).

If his assessment is true, then an appreciation for the subtleties of properly applying the military instrument of power towards achievement of national security objectives has surely been lost. The military must realize, as Secretary of State George Shultz recently pointed out, "...power and diplomacy are not alternatives. They must go together, or one will accomplish very little in this world" (10).



I, for one, agree with Cohen that "[O]ne may ... debate the merits of any particular military involvement overseas; it is difficult to argue, however, that the United States should not have the capability to enter one" (3:165). In order to ensure that United States has that capability in the low intensity conflict arena, at least from an airpower perspective, some bold steps need to be taken.

#### IMPROVING AIRPOWER CAPABILITY

The United States has been involved in low intensity conflicts for the past 20 or so years and, in the opinion of most experts, will continue to do so for at least the next 20. It is, therefore, imperative that certain steps be taken to enhance the chances of success in these "small wars". The first, and most important one, is to develop a coherent and comprehensive strategy to deal with these conflicts. Few participants at this symposium can affect the development of our grand strategy; however, they can affect development of military and battlefield strategy.

The Joint Special Operations Agency and the Services must take the lead in developing a regional (if not country-by-country) military strategy for conducting low intensity conflict. This strategy needs to be situational, yet as definitive and precise as possible. It cannot just espouse such generalized objectives as deterring war or controlling escalation. It must provide guidance for the unified commands as to what the military instrument is expected to be able to do in

achieving those objectives. Can it operate unilaterally or must it be totally integrated with the host nation? What are the anticipated and authorized levels of escalation? At each level are we operating clandestinely, covertly or overtly? Likewise, the Air Force must realistically assess airpower objectives and functions in low intensity conflict. This is no longer the sole province of the AFSOF. The Air Force must also avoid developing general strategy objectives but, instead, must tackle the tough airpower issues.

In a similar manner, the unified commands need to develop a comprehensive battlefield strategy for each of their regions or countries. They need to take the military strategy for low intensity conflict and translate it into employment concepts. In concert with each other, military and battlefield strategy should serve as the underpinning of the CINCs' low intensity minimum risk forces. Their annual submissions should include a section on those forces necessary to achieve battlefield success in low intensity conflict; not merely incorporate them into the theater's SOF requirements for global war.

A necessary second step is enhancing the development of these strategies through proper education on low intensity conflict. This symposium is an important first step. But all too often we've gotten to this point and then not much further. The educational process begun here should continue and go beyond merely reviewing past experiences. It requires that the historical perspectives be projected into the future. It

requires teaching how to do it rather than stopping at a discussion of what it's all about. Rare are the individuals who, without years of experience in the mission, can take a smattering of education on low intensity conflict and then translate that into "whats and hows". The personal sacrifice required to do this is monumental, especially in light of today's paucity of rewards for having done so.

Fortunately, the Air Force has two fine institutions that can meet this particular challenge. The professional military education system at the Air University needs to increase the emphasis on low intensity conflicts. I was somewhat dismayed as a student at ACSC to find us spending only 2 or 3 seminars on the Vietnam conflict during the entire 10 month program. Both ACSC and AWC must go beyond historical reviews and get into teaching how the lessons of the past can be more readily applied to the future. This is especially true of that arena which is most likely to involve the next use of military power.

Likewise, the Special Operations School at Hurlburt Field, Florida, needs to reassess its objectives and curriculum. It, too, needs to expand and teach students the whats and hows and not just the whys. Working in concert, these two institutions should become the champions for educating Air Force personnel in how to employ airpower in low intensity conflicts. They should become the shapers of future airpower strategies in this area as they have been in the past for other key areas of airpower. They need to identify the weapon systems, integration efforts,

infrastructures and doctrinal philosophies necessary today and in the future.

In a similar manner, the United States Air Force needs to reassess where it's going in low intensity conflict. Is its airpower or someone else's going to provide the decisive outcome? Does it have an interest in this type of warfare beyond just carrying the other Services' forces into combat? The changing institutional perspective relative to special operations and the AFSOF must be resolved. Once that is accomplished, all other required changes in the force development process can naturally evolve.

The force development process must, first and foremost, acknowledge the overriding importance of strategy (vice hardware, cost effectiveness and force mix) on the force structure equation. Almost as important, it must recognize the likelihood that force structures designed to operate in a major, conventional war in Europe do not have automatic applicability in a lesser, yet more likely, conflict environment. Changes in equipment, tactics, training and even force mix are required. Organizational changes will also be required depending upon the outcome of the Air Force's reassessment of the AFSOF. Furthermore, there is a need for an organization to oversee force structure development for low intensity conflict. Perhaps the solution lies in a "SOF" or "LIC" panel in the Air Force Board Structure that would be tasked with ensuring development and acquisition of the proper mix of air assets for low intensity

conflict and providing a "voice" in the system during the annual program objective memorandum development.

If all the above actions are not undertaken, then recent proposals to create a single military agency for organizing, training, equipping and employing forces in low intensity conflict must be reconsidered (e.g., the Strategic Services Command proposal or giving the mission of the Marines (see 11)). We really don't need another agency fighting for its share of the defense budget. However, if the current system cannot be responsive then it's high time that it be changed. There are a number of influential individuals outside the military branches who recognize the importance of low intensity warfare to our national security objectives. If the Services cannot achieve an effective force structure by themselves, you can rest assured that these individuals will attempt to create changes that are designed to result in one.

#### SUMMARY

This paper has examined the use of airpower support within low intensity conflicts or, more appropriately, small wars. It has shown that virtually all airpower tasks are required yet our current ability to accomplish them are, at best, limited. Principal factors accounting for this low capability estimate are the lack of coherent and comprehensive strategies at all levels from the national down through the battlefield environment; shifting Air Force perspectives with regard to low intensity conflict and the AFSOF; and, the Air Force's force development

and resource allocation process. Key improvements needed to enhance our ability to capitalize on the decisiveness of airpower include definitive employment strategies; a revamped military education system which, hopefully, will lead to resolution of the Air Force's institutional dilemma on the AFSOF; and, finally, a low intensity conflict oversight body within the Air Force's force development and resource allocation processes. Without these changes the Air Force runs the risk of a separate organization being developed to organize, train, equip and employ forces for low intensity conflict. Either way, something must be done, and soon, because of the high likelihood of becoming involved once again. If nothing is done then our chances of success will continue to remain low and we will have failed to heed Lieutenant General Nutting's succinct observation that, "As a nation we don't understand it [low intensity conflict] and as a government we are not prepared to deal with it [low intensity conflict]" (12).

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POTENTIAL CONTRIBUTIONS OF JOINT SPECIAL OPERATIONS FORCES  
TO THE UNITED STATES' NATIONAL SECURITY OBJECTIVES IN THE NEXT DECADE

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Lt Colonel Jannarone's preceding assignment was as Director of Plans at Second Air Division Headquarters, Hurlburt Field, Florida. His directorate performed worldwide Special Operations Forces (SOF) deliberate planning, programming, operational support activities, concept development, and joint SOF targeting studies.

Lt Col Jannarone has a Masters Degree in Asian Studies, is a Distinguished Graduate of the Armed Forces Staff College, and lectures widely on joint planning, targeting, deception, and unconventional warfare. He is a USAF Southeast Asian Area Specialist.

His combat experience includes tours in Thailand and Vietnam as navigator in the A-26A and C-123K aircraft, and as a field military civic action officer and airlift division staff officer. He has flown, as Weapons Systems Officer (WSO), several fighter and test-bed versions of the F-4; was tactically qualified in the C-130; and is a senior parachutist.

Past assignments include: Unconventional Warfare Staff Officer and Special Planner at HQ USEUCOM; Air Operations Staff Officer (tactical applications and flight simulation) at the USAF Tactical Air Warfare Center; and Wing Executive Officer and F-4E WSO at the 4th Tactical Fighter Wing.

Thank you. General, Mr. Moderator, and fellow participants, I am honored to be here, and I hope that something I may offer in the next ten minutes will adequately compensate you for your time and attention. For our panel's consideration, I have put down some thoughts on how United States military special operations forces might best contribute to national security and foreign policy objectives for the next decade.

At this point in the symposium, most of us will have rhetorically revisited the Army, Air Force (5:1), and Defense Department "Year 2000" studies, on which many military personnel and others here have labored or expressed strong opinions. These efforts attempted to describe the likely near- and mid-term political-military and threat environments within which the Armed Forces would be asked to survive, operate, and succeed in support of national interests. Rigorous and detailed assessments of functions, missions, regions, capabilities, and force requirements were performed, in light of the environments described. Of the principal conclusions reached, we are concerned here with one that can be characterized as: We probably won't fight the big war, but we could get nibbled to death. An adequate graphic representation (3:1) of this conclusion is the conflict spectrum and probability of occurrence chart [Figure 1] in this paper, and in your possession now.

Since the end of United States military involvement in Vietnam, confusion and disagreement over the purposes, force structure, doctrine, and employment of our joint special operations forces (SOF) have characterized most of the debate over these unique combat units. While military, government, and civilian opinions abound over what these forces should, could, or must do, and over command and control of their activities, most of the views

# CONFLICT IN THE 1980'S

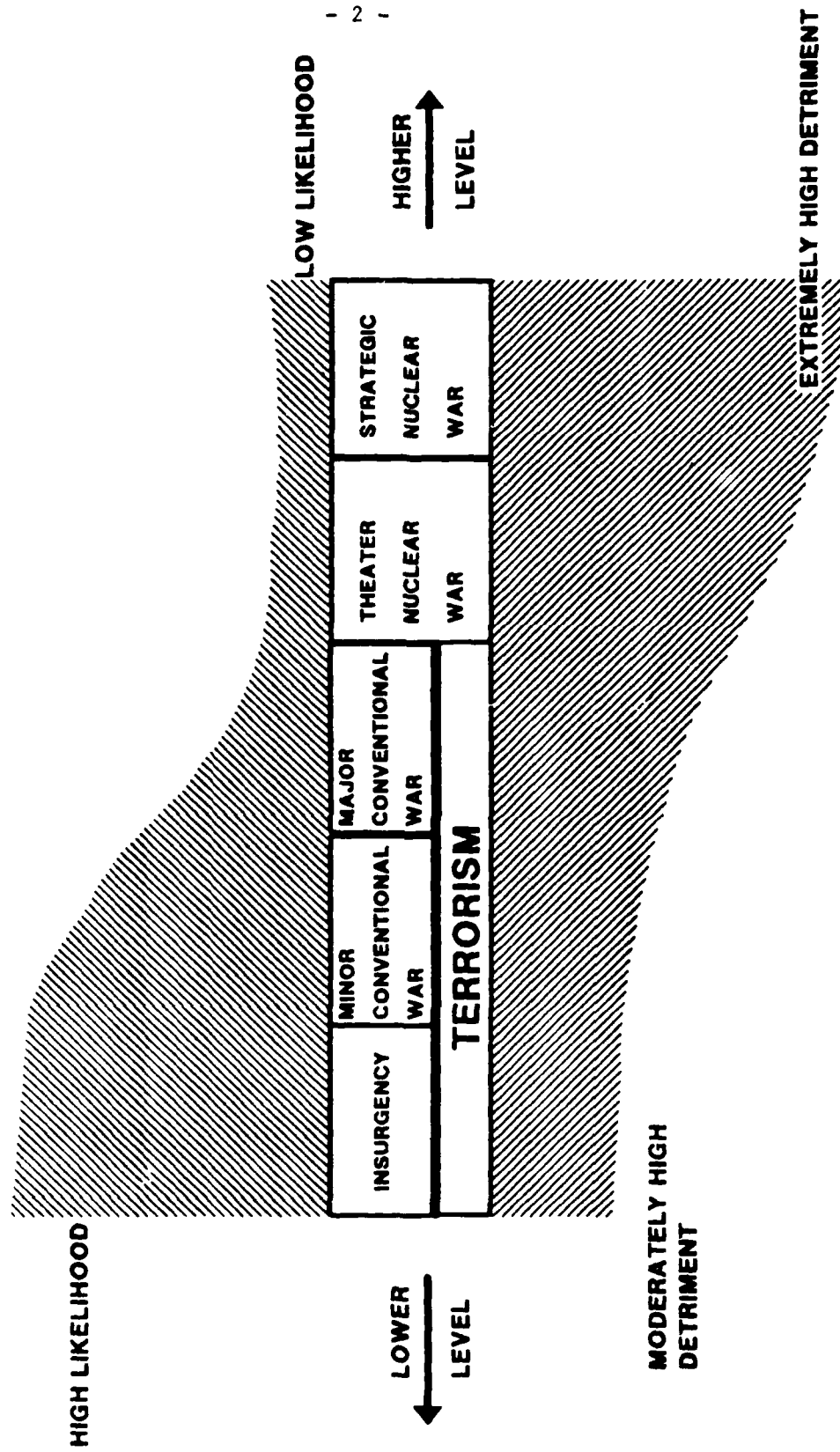


Figure 1

are understandably retrospective. Thus, the increasingly political-military character of the probable future employment of these forces is overlooked, and their designed operational capabilities for low intensity conflict are not fully appreciated.

Military SOF in the foreseeable future will not be a decisive factor in major interstate warfare, even if national politics and defense policies allowed for optimum strategic employment. However, for the United States and its allies, timely and intelligent SOF applications in the low intensity arena can deter certain types of aggression, and can measurably contribute to containment, limitation, or acceptable conclusion of conflicts. If employed in the option-rich pre-hostilities period, deterrence may well result. While most of us can agree that Third World areas will and should predominate for SOF planning and training, most theater Commanders-in-Chief (CINCs) require SOF capabilities for sensitive contingency operations in "Second Area" regions, where the countries or territories involved are not clearly Third World. An example would be specialized, limited, and low visibility support of an ally requesting assistance with a cross-border problem.

My use of the term SOF in this discussion refers to existing Army, Navy, and Air Force units that are designed for low visibility, clandestine, or covert military operations in hostile, denied, or politically sensitive areas. The primary missions performed are very special variants of light infantry, combat swimmers and divers, and fixed-wing and helicopter aircrews. Usual qualifications for Army Special Forces and Rangers, Navy Sea, Air, Land (SEAL) teams, and Air Force combat air control and combat weather teams include parachuting; man-portable weapons operations; communications; demolitions; night, all weather, all terrain capability; remote area

self-sustainment; and area specialization. Other mission personnel perform in psychological operations and civil affairs roles, specialized areas of intelligence and targeting, and in essential training, support, planning, and command and control. Numbers can be misleading, because actual ground or maritime combat operations generally involve less than 14 men, and team delivery aircraft typically operate singly. Also, planning, mission support, intelligence, and command and control can range from a few dozen personnel to hundreds to adequately prepare and support a team or an aircraft, or to conduct indigenous force training. However, the current combined total of SOF unit assigned personnel for all Services is about 14,000 active duty personnel, with approximately 17,500 more in reserve or national guard units (2:10). This is far less than one-tenth of one percent of the active duty Department of Defense military manpower.

It would be helpful to look at a summary of the kinds of things SOF are designed or tasked to do before considering the type of circumstances in which they are asked to do them. This mission taxonomy [Figure 2] is merely a reference point and reflects the doctrinal, training, and joint operations plans expectations of what the units are capable of performing, when provided the personnel, time, training, equipment, language skills, and authoritative direction. In one sense, this is a menu from which each theater commander makes a great number of selections, combinations of which appear as SOF tasking in his contingency and general war plans. Although the list is formidable, Service training at the individual, team, aircrew, and unit levels provides basic competencies in core areas, and familiarity in the remainder.

The major obstacle to full preparedness and true regional specialization

# MISSION TAXONOMY FOR SPECIAL OPERATIONS FORCES (SOF)

<u>MISSIONS</u>	<u>PRE-HOSTILITY</u>	<u>LOW-INTENSITY</u>	<u>MID-INTENSITY</u>	<u>HIGH INTENSITY (GENERAL WAR)</u>
<u>COLLECTIVE SECURITY</u>				
- INTERNAL DEFENSE AND DEVELOPMENT	X	X	X	X
- COUNTERINSURGENCY	X	X	X	X
- MOBILE TRAINING TEAMS	X	X		
- CIVIL AFFAIRS/CIVIC ACTION	X	X	X	X
<u>HUMANITARIAN ASSISTANCE</u>				
	X	X		
<u>DIRECT ACTION</u>				
- STRATEGIC INTELLIGENCE	X	X	X	X
- TACTICAL INTELLIGENCE		X	X	X
- TARGET ACQUISITION		X	X	X
- INTERDICTION		X	X	X
- PERSONNEL RECOVERY	X	X	X	X
- COUNTER-TERROR OPERATIONS	X	X	X	X
- SABOTAGE	X	X	X	X
<u>UNCONVENTIONAL WARFARE</u>				
- GUERRILLA WARFARE		X	X	X
- SUBVERSION	X	X	X	X
- SABOTAGE	X	X	X	X
- ESCAPE AND EVASION			X	X
<u>PSYCHOLOGICAL OPERATIONS</u>				
	X	X	X	X
<u>DECEPTION</u>				
	X	X	X	X

Figure 2

has been and remains force size, and the fact that every CINC legitimately requires SOF units for virtually every operations plan and crisis situation. The typical SOF man cannot remain overseas for 20 years, nor can he be expected to speak a dozen languages well, while maintaining impressive abilities to infiltrate, fight, advise, train, communicate, collect intelligence, and thoroughly study wartime operating areas or target complexes. A necessary prioritization of areas, missions, skills, languages, and other specializations has been applied at unit, team, and individual levels. The Joint Staff and Department of Defense personnel have had to establish theater allocation priorities for a range of defined shortfall scenarios. If equal readiness for all theaters and missions is the theoretical goal, we have, in effect, a forty pound bag and only six pounds to put in it. A brief review of our basic national security policy premises, and an assessment of SOF in three defense planning environments, should help us reach some tentative conclusions on the current state of SOF. The planning environments are pre-hostilities deterrence, low intensity conflict, and major warfare.

Our fundamental national security objective is, now, and should remain, peace with freedom. For the general direction and guidance of the Armed Forces, national security policy defines three principal military elements: deterrence; a defensive military posture; and maintenance of combat capabilities adequate to terminate conflict on terms favorable to the United States (4:17-18). According to assigned functions and possessed capabilities, all military forces including SOF are directed and operate within the sense of this guidance. Deterrence is generally the most hotly debated aspect of defense policy because it is viewed by some as a monetary sink hole and, in any analysis, is only measurable upon the circumstance of its failure. More

simply put, we're never sure if it's working, but we're always sure when it's not working. The SOF units can be pictured as both strategic and tactical elements of deterrence policy, and sometimes they are both simultaneously. An example of this could be the highly successful and publicized Army Special Forces' training and advisory activities in Liberia during 1981 and 1982. The tactical aspect was the operational capabilities developed within Liberian ground forces for internal defense; the strategic aspect was the perception by potential hostile forces or interfering foreign powers that Liberia had a resolute and involved ally in the United States.

As with any other military force, supposed achievements in deterrence by SOF are rooted in psychology, and specifically in the psychology of perception as applied against the forces, hostile populations, or governments which are to be deterred. If SOF are interacting effectively with indigenous personnel, are appropriately present and visible, and appear postured and capable of staying the course should low intensity aggression be attempted, then rational calculations of a potential aggressor must consider this obstacle. To some degree, this concept of operations can be attributed to the presence of Army Special Forces' training cadre personnel at the Regional Military Training Center in northern Honduras, and to the Naval Special Warfare Unit in the Philippines.

Okay, Jannarone, even if I grant you some SOF deterrent utility in Third World pre-hostilities scenarios, what's the payoff where the U.S. has to succeed at deterrence? In other words, what does it matter to the Soviets? Well, maybe there's no effect on the Bear, but I doubt that. These are only assumptions and assertions, with no hard evidence, but, if the Soviets are only a little bit paranoid about rebellious allies, in-country ethnic



minorities, cross-border irredentism, and potential hostile penetration attempts into Mother Russia, then we have a deterrent mission basis.

As long as there are multiple plausible explanations for the deliberate, planned, and publicized growth and improvement of U.S. SOF, including 21 new long-range clandestine penetration aircraft (1:4), we must assume that potential target governments will pause to consider possible underlying strategic explanations. This applies as well in the low intensity conflict environment, when pre-hostilities deterrence was ineffective, or unattempted.

Unless one categorically regards conflict escalation as akin to a greased pole, SOF will have critical utility, more latitude of action, and an opportunity to influence containment and termination of low level conflicts. Assuming that hostilities or antagonisms have occurred or worsened in any number of areas that don't directly threaten major U.S. or Soviet national interests, but one or both of the superpowers is meaningfully tied to a participant, then we can expect some forms of encouragement, support, or active involvement. Candidate examples in today's world are abundant and include Afghanistan/Pakistan, El Salvador/Nicaragua, Thailand/Cambodia, Morocco/Polisario Front, et cetera. Where projecting U.S. conventional forces may be inappropriate, infeasible, unsustainable, or escalatory, tailored SOF packages with well selected supporting missions may be useful. From training teams to combined patrols, and from counterinsurgency instruction to unconventional warfare, the National Command Authority needs a timely, candid, and bounded set of initial and follow-on missions for consideration along with non-military elements of the national response [Figure 3]. I say bounded because we must offer only capabilities we have in

# SPECIAL OPERATIONS EMPLOYMENT SPECTRUM IN LOW INTENSITY CONFLICT

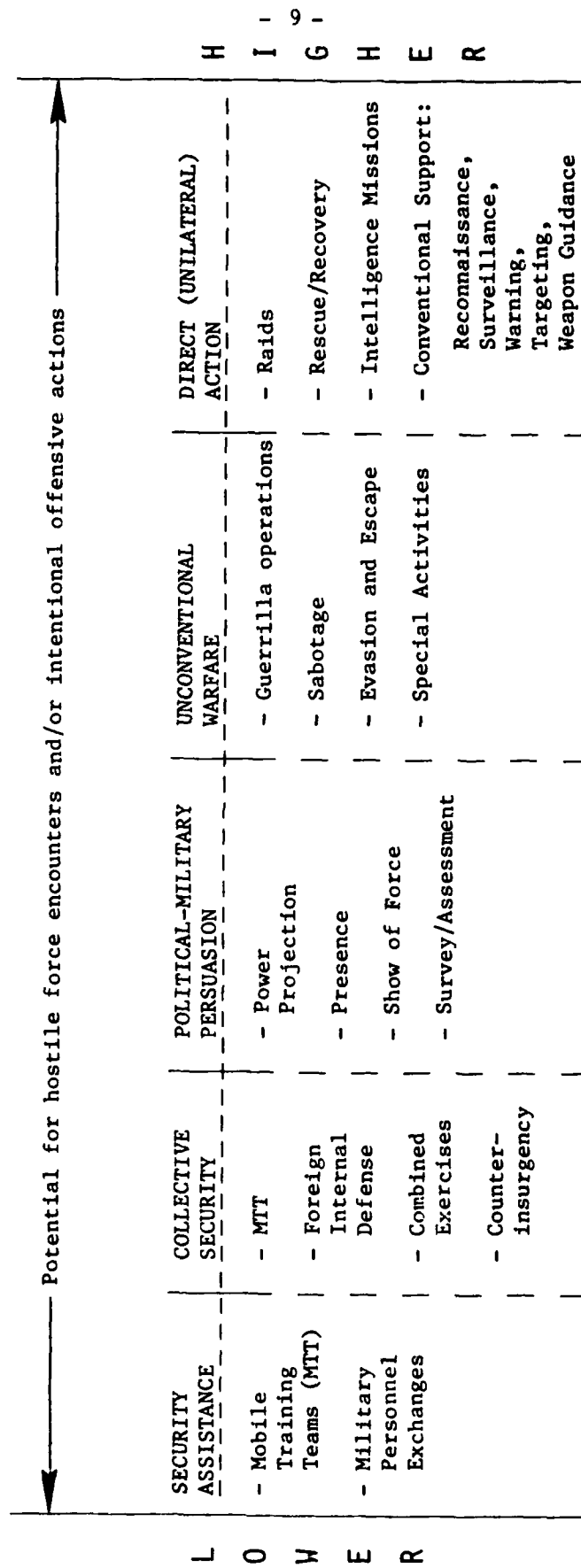


Figure 3

readiness, and recommend only courses of action that fit the constraints and limitations of political guidance.

Constraints and limitations, new guidance, redefined objectives, and revised rules of engagement are the stuff of a military planner's life. The political and military decision environments share many characteristics, among which are incomplete, imperfect, or ambiguous information; a dynamic problem over time; and uncertainty. Crisis and contingency planning are aptly named arts. Nonetheless, common goals exist among political and military leaders in low intensity challenges, namely, problem definition, containment, stabilization, and favorable termination. Inabilities or ineffectiveness of SOF in low intensity conflict, once committed, can compel unintended escalation by introduction of more visible and lethal forces. A hedge on this is commitment early enough to be effective at lower intensities, and withdrawal at the earliest practical time. The more intense the conflict, and the more we must resort to SOF direct action methods, the more likely it is that conventional forces will be viewed as necessary. The circumstance ought to serve as a bellwether that we are approaching the upward boundary of low intensity or limited conflict. As far as SOF are concerned, their operations in concert with conventional forces--near this notional upward boundary of limited violence--approximate their roles in major interstate war.

If major war befalls the United States, SOF would be applied best to achieve strategic objectives, in terms of theater or national strategies. These objectives, as were those for deterrence, are largely psychological, because force multiplication and economy of force operations rely on the risk assessments and uncertainty of enemy leadership. IF SOF operations can

cause major misallocations of enemy forces, or seriously delayed decisions, benefits for the overall friendly campaign should far exceed those of alternative SOF employments that are further downstream, and more tactical. If this approach does not currently predominate in major war planning, SOF employment may be seriously sub-optimized in the critical early phases of conflict.

Of course, there will probably be multiple campaign phases and changing geopolitical objectives in major, non-nuclear war. Additionally, the physical limits of secure planning bases, insertion, and recovery vehicles, and intelligence will cause major variations in SOF employment patterns and objectives, especially as a function of assigned operational areas. The surviving SOF forces will have another peak in utility at later stages of an extended conflict, when more traditional missions such as resistance forces support or agent network development may be possible.

It seems to me that our joint SOF are not currently being area-oriented, task and target trained, equipped, and controlled in a manner that provides the National Command Authority with high confidence of efficient employment and success in deterrence, low intensity conflict, or major warfare. Money is a big factor. The currently underway DOD-directed force enhancements will certainly help, if funding can be assured for some years. However, joint SOF still are funded at less than 3/10 of one percent of the DOD budget (2:10). This is curious for the most heavily used peacetime forces, and the forces that deploy first in war.

However, we can be much more effective with our current resources, through low cost improvements in organization, training, planning, and equipment adaptations. Organizationally, the continuing development of the Joint Special

Operations Agency into a joint strategy and doctrine source could be of major help in regional planning, systematic targeting, procedural standardization, and exercise improvement and coordination. We have too many intermediate headquarters in the Army and Air Force, and insufficient qualified personnel to staff them. In training matters, we could all benefit from closer adherence to a task-criteria-standard instruction and assessment approach, and a joint approach to targeting at all conflict levels is just beginning to coalesce. We're very late on this, but we now see the correct path.

Our people must be permitted to become deterrence and low intensity conflict experts by performing in those environments that are available, fruitful, and nationally necessary. The Air Force SOF, for example, was superb in aviation, weather, air traffic control, and medical mobile training teams until we essentially quit doing them--17 years ago. Our Army SOF colleagues have shown us up badly here, doing over 25 percent of their Service's MTTs annually, with less than 1 percent of Army manpower.

The logic of low intensity conflict is that it occurs overseas, is usually an issue of limited objectives and scale, may endure and spread, and is most successfully terminated if dealt with very early. These characteristics lend themselves to initial, early application of SOF if an American military force presence is directed by our leadership and perhaps by treaty provisions. The CINCs should remain paramount in SOF theater planning matters, and their respective joint special operations cadre headquarters should be strengthened and tied more directly through their CINC to JSOA. This would facilitate major improvements in theater based training, targeting and exercising, as well as in essential readiness to foresee and respond to developing

conflicts. Finally, low intensity conflict invites the adaptation and innovation that we value in special operations personnel, and we must continue to rely on high morale much more than on high technology. Only that encouraged flexibility of mind that responds with enthusiasm to the diversity of environments and tasks in low intensity conflict can arrive at imaginative and effective solutions to the many problems we will be confronting there. Thank you.

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US ARMY SPECIAL OPERATIONS IN LOW INTENSITY CONFLICT: TODAY/TOMORROW

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## US ARMY SPECIAL OPERATIONS FORCES IN LOW INTENSITY CONFLICT: TODAY/TOMORROW

### I. INTRODUCTION

The paper represents the combined energies of five special operations forces officers and two Department of Army civilians ( each with a separate specialty) currently assigned to the US Army John F. Kennedy Special Warfare Center at Fort Bragg, North Carolina. The authors initially define the nature of the insurgent threat to the world's developing nations. Army Special Operations Forces doctrinal response to the challenge follows, as contained in the new coordinating draft of FM 100-20, Low Intensity Conflict. Subsequent to this, specific suggestions relating to Psychological Operations, Special Forces, Civil Affairs, Rangers and Special Operations Forces Aviation preparation for future low intensity exigencies are proffered. A final segment addresses the need for (and composition of) a Special Operations Forces integrated approach designed to train indigenous trainers in an effort to preclude and/or defeat population-oriented insurgent movements. The entire work is premised on the belief that our adversaries will continue to foment unrest worldwide, and that properly structured, trained and educated Special Operations Forces offer our nation and its allies a valuable asset in the struggle for stability in the Third World.

## OUTLINE

### I. INTRODUCTION

#### OUTLINE

### II. THE THREAT (DEVELOPING NATIONS)

- A. INTERNAL STABILITY ... OUR WAY OR THEIRS?
- B. THE "DISEASE" ... SOCIAL/POLITICAL/ECONOMIC/SECURITY  
DIFFICULTIES WITH ATTENDANT EXACERBATION
- C. THE MASS (MAOIST) APPROACH VS WESTERN STRATEGY

### III. ARMY SPECIAL OPERATIONS FORCES DOCTRINAL RESPONSE

- A. ENCAPSULATING FIELD MANUAL 100-20, LOW INTENSITY CONFLICT
- B. SECURITY ASSISTANCE METHODOLOGY AND TERMS

### IV. TOMORROW'S SPECIAL OPERATIONS FORCES

- A. SPECIAL FORCES CAPABILITIES AND APPLICATION
- B. CIVIL AFFAIRS CAPABILITIES AND APPLICATION
- C. PSYCHOLOGICAL OPERATIONS CAPABILITIES AND APPLICATION
- D. RANGERS CAPABILITIES AND APPLICATION
- E. SPECIAL OPERATIONS FORCES (ARMY) (AIR FORCE) AVIATION CAPABILITIES  
AND APPLICATION

F. SPECIAL OPERATIONS FORCES INTEGRATION

1. TO PRECLUDE INSURGENCY
2. TO REACT TO INSURGENCY

G. FORMULATION OF THE SECURITY ASSISTANCE FORCE

H. JOINT SECURITY ASSISTANCE FORCE

V. CONCLUSION

VI. GLOSSARY OF TERMS

VII. BIBLIOGRAPHY

## II. THE THREAT (DEVELOPING NATIONS)

The proliferation of internal instability in the developing world demands that the conflicts be characterized and quantified. There can be no viable basis for assuaging current difficulties or precluding imminent threats without a comprehensive understanding of contemporary battlegrounds on the low end of the conflict spectrum. When viewed in an East-West ideological context encompassing the use of surrogates, the individual struggles coalesce into a quest for influence and/or domination by the contending superpowers. To achieve these ends, it is necessary that client states approximate the internal control mechanisms which have proven successful for the ideology (superpower) they support. This "be like me" syndrome in the developing world in effect reinforces the dominance of the ideology imitated, and each successive "convert" justifies the process which continually seeks new "novitiates." The West looks for democratic minded proteges, while the East prefers more socialistic/communistic adherents. The acid test in this continuum of struggle measures whether the ideology and its internal control mechanisms in any given country produce a stable environment which contributes to the furtherance of the particular governing concept espoused.

### A. INTERNAL STABILITY ... OUR WAY OR THEIRS?

The North Vietnamese, like their compatriots in Cuba and Nicaragua, have achieved positive results on the political/military field of battle, and speak of success in terms of societal order. It is order, as opposed to freedom (in a Western sense), that offers promise for the future expansion of communist ideology. The benefits of order in client states accrue to the Soviet Union decades later when the Vietnams and Cubas aid substantially in exporting the

revolutionary model. Left unchecked, order (Soviet style) results in an extending sphere of influence and final isolation of the ideological adversary. The same logic can be applied to the West's penchant for supporting regimes harboring anti-communist tendencies. If such nations are to be bastions of democracy, long-term internal stability (order) is an absolute necessity.

Accepting Third World order (internal stability) as an interim goal for the superpowers, the inescapable question is which type (of order) will prevail? The Soviets consistently remind Western leaders that revolution is inevitable (the creation of the United States being only one example) when societies, or segments thereof, are disregarded by those governing them. Moscow points to myriad examples of this in the developing world. The message to America is to stand aside and allow the revolutionary process to occur, or face the prospect of continued failure along with the inevitable imperialist label.

#### B. THE "DISEASE" ... SOCIAL/POLITICAL/ECONOMIC/SECURITY DIFFICULTIES WITH ATTENDANT EXACERBATION

Analysis of recent US involvement in attempting to halt the revolutionary process seems at times to support Moscow's advice, and for perhaps some very substantial reasons.

First, most of the Third World suffers from staggering social, economic political, and internal security problems which represent the contemporary disease. Nicaragua, under Somoza, was one such example. The Somoza family controlled virtually all of the country's wealth. When this occurs and where

there exists no hope for the future, people often rebel. The battleground ultimately and inextricably encompasses popular sentiment wherein individual ideals, hopes, fears, aspirations and frustrations prevail. Realization of the true parameters of instability in developing nations is a prerequisite for viable US involvement.

Second, the belief that purely military solutions will suffice, much less contribute to long term stability, is incorrect. Obviously, a nation that is beset with internal problems which have resulted in violence must be able to deal effectively with such occurrences. However, killing guerrillas (even where it can be accomplished surgically, without undue civilian casualties and deprivation) does absolutely nothing to assuage those conditions existing prior to the advent of hostilities. The host country, military and police must deal with population security and resources control to the extent that both contribute to the isolation of guerrillas. However, napalm, howitzers and search and destroy operations only exacerbate an already untenable situation. Guerrilla leaders and strategists use such indiscriminate weapons against the host government by placing the population between themselves and government forces. Civilian casualties are inevitable, together with ensuing insurgent propaganda blaming the government. Both combine to undermine the critical popular support so necessary for a government dealing with insurgency.

Third, the conclusion that the host country and US military should and will be used only for military ends in insurgent situations invites failure. A glance at the Third World hierarchies confirms that the host military often controls those human and material assets which can be brought to bear in

assisting civilian populations with social and economic improvements. Ramon Magsaysay, the Philippine Defense Minister, recognized this in the early 1950's during the Hukbalahap insurgency on the central plain of Luzon. Military commanders were encouraged to help dig wells, harvest crops, erect structures and provide medical care (in addition to population security) to a needy local populace. These actions in combination with civilian government programs eventually convinced local Filipinos to abandon the hard-core Huk leadership. Robert Komer, the originator of the Civilian Operations Revolutionary Development Support (CORDS) program in Vietnam effectively combined Vietnamese and US military and civilian agencies in attempting rural pacification. [That is not to say that the US military should again be directly involved in social and economic projects designed to assist indigenous populations elsewhere. The US military "doing" in such scenarios must be replaced by "teaching" the host country military why such involvement is crucial and how to effect social and economic assistance. Failure to grasp this ultimately will involve another US presence "doing", and, as such, will allow insurgent strategists to exploit the puppet government theory used so effectively in Southeast Asia.] The underlying principle is that all of the host nation's resources must be brought to bear in easing political, social and economic inequities.

Fourth, traditional western solutions of throwing money and advanced technology at others problems are ill-conceived. The money rarely goes to benefit those requiring it. When it does filter down to local societies (Vietnam), vast amounts of US currency produce inflation and cultural upheaval. Technology not understood (the first locomotives in China), when introduced too quickly moves societies forward at a pace too rapid (the Shah's



Iran). This often produces confusion, antipathy and further instability. The result is that both the US and the host government most contribute to what they least desire...revolution.

The "disease," in reality, extends beyond the obvious social, economic, political and security difficulties currently experienced in a plethora of developing nations. A lack of jobs, adequate health care, proper education and political participation and representation are prevalent in the Third World. Exacerbating the cancer is a US approach which almost totally fails to confront our ideological adversaries given their primary emphasis on the battleground, the civilian population.

#### C. THE MASS (MAOIST) APPROACH VS WESTERN STRATEGY

Contemporary warfare successfully waged by insurgents (and their patrons) in the Third World is based upon the tenets of a modern-day success story, Mao Tse-Tung. Mao believed that people are the key to winning insurgencies. Local populations are the "sea" in which the "fish" (guerrillas) "swim" (conduct political and military operations). Mao envisioned uniting the rural masses into a political/military force capable of defeating an administration in power and functioning as the new government. The battle, if possible, was to be concluded quickly; however, victory would be pursued even should it require many decades of struggle. Mao seized upon often glaring social, political, and economic inequities in undermining popular support for Chiang Kai-Shek in China, while exploiting the inability of that government to protect its citizens. Inside Mao's first communal "cell" in Shensi province, supporters received health care, education and other social services often denied China's lower class. An efficient military/political cadre ran local

governments and developed an effective fighting force. Mao's military served to exploit and advance the political goals of the Chinese Communist Party. But, always the rural masses of China were considered to be the crucial element in the internal struggle.

Insurgents worldwide have copied Mao's approach. Ho Chi Minh and his Vietminh, the Vietcong in South Vietnam, Peru's Shining Path, Laos' Pathet Lao, Nicaragua's Sandinistas, Cuba's Castro and El Salvador's rebels are only a few of the organizations and individuals to achieve varying degrees of success following Mao's lead. With dynamic leadership often coming from the elite class together with a substantial urban infrastructure providing moral and fiscal support, insurgents are enjoying increasing prominence. Until such movements, which ultimately provide hollow benefits for their people and add fuel for the revolutionary process, are stopped or precluded, the ideological antagonists of the US will continue to confront us with Mao-like warfare.

Western strategy for insurgency primarily involves money, technology and conventional military approaches. The negative aspects of throwing money and advanced technology at developing cultures and their problems have been discussed earlier in this paper. The military approach, with a few exceptions, continues to stress training battalions and brigades along conventional lines to kill guerrillas and hold key terrain so that, at length, the government being supported can somehow develop an internally stable environment. Military operations (of the host army) are seldom envisioned in terms of their impact on the civilian population, especially in the crucial area of military civil action in which martial elements of the government are used to benefit local populations (such as occurred in the Philippines in the

early 1950's) in social and economic ways while simultaneously protecting them. Rarely, if ever, do US military and civilian agencies combine with the host government to conduct viable in-depth internal assessments which identify the reasons for rebellion and optimally produce a long term Internal Defense and Development (IDAD) Plan aimed at eradicating social, political, economic and/or internal security difficulties. Finally, US military and civilian agencies need to vastly increase their efforts to identify, select, educate, train and implement individuals capable of making these assessments and effecting the communication necessary to produce viable long-term IDAD plans for our friends in jeopardy in the developing world. Killing guerrillas continues to be the focus of US military assistance to our counterparts in the Third World, and this is to be accomplished as quickly as possible because of an inherently American need for rapid results on the battleground.

### III. ARMY SPECIAL OPERATIONS FORCES DOCTRINAL RESPONSE

#### A. ENCAPSULATING FIELD MANUAL 100-20, LOW INTENSITY CONFLICT

A widely accepted precise definition for Low Intensity Conflict (LIC) is not extant. However, several aspects of the milieu must be enunciated. Low Intensity Conflict does not include protracted engagement of opposing regular forces but does encompass military operations by or against irregular forces, peacekeeping operations, terrorism, counterterrorism, rescue missions, and military assistance under conditions of armed conflict. Thus, US military involvement in a low intensity conflict calls for special knowledge and additional skills beyond those normally associated with the customary application of military power. The Army's Special Operation Forces are, in

theory, organized, trained, and equipped to function effectively at all levels of US involvement in low intensity conflict from an advisory effort as part of US foreign internal defense (FID) operations to situations requiring commitment of US ground combat forces. (NOTE: SOF is also applicable to the entire spectrum of conflict in varying degrees dependent upon the situation).

LIC operations are envisioned in an environment in which an established government attempts to reduce political instability and internal conflict among its citizenry during a period of increased societal development. Development implies change in the social, political, economic, and psychological fabric of a nation. Change is often by its very nature disruptive, since for some it is unwanted while for others it is not coming fast enough. The growing interdependence of nations has brought the reality of change to even the most remote regions of the world. Change has always been a challenge to established societies, but today coping with increasing demands for rapid change frequently places insurmountable burdens on countries characterized by traditional values, limited or underdeveloped human and natural resources, and little modern technological knowledge. Modernization requires developing nations to discard entirely or to alter significantly the age-old traditions, values, institutions, and perceptions of a traditional society in favor of evolving new ones. Urbanization, industrialization and the expanded agricultural base required to sustain them are breeding grounds for insurgent leadership. Anxiety, frustration, tension, disorder, and uncertainty may accompany a society's modernization process frequently with internal conflict exacerbated by the direct or indirect involvement of external political and military forces. In an interdependent international setting it is likely that US national interest will be affected by a nation's

struggle to modernize, and, in pursuit of US national interests, it may become necessary for the US to protect its interests by assisting a friendly nation's effort in its struggle for success in the ensuing low intensity conflict. (To successfully counter an insurgency a nation must have a well developed and mutually supporting three part national level program: An intelligence system to detect; a communications system to report; and a civil affairs/psychological operations program to respond.)

US involvement in low intensity conflict may be as small as an advisory effort as part of US foreign internal defense (FID) operations or as large as the commitment of US ground combat forces. Doctrine stresses that the "situation in each country faced with an insurgency is unique to that country" and therefore doctrine can provide only a guide to LIC operations. Wisdom in applying the principles of LIC remains the critical ingredient for success in LIC operations.

The most effective and efficient way of dealing with an insurgency is to prevent it. This requires the skill and appreciation to recognize the potential for insurgency in a Third World setting, as well as to formulate, implement, and evaluate policy and plans to prevent nascent insurgencies from escalating to a major threat. The prevention or elimination of insurgencies is based on a thorough understanding of the internal conditions contributing to insurrection along with the ability to apply appropriate strategy and tactics against any insurgent force. Internal Development and Internal Defense programs and operations must be pursued simultaneously and must be directed toward the populace and insurgent alike. Internal Defense seeks to achieve internal security and a state of law and order in which the Internal

Development program can promote balanced growth through the establishment of viable national institutions. IDAD planning should blend internal defense and development into a unified strategy to produce the destruction of insurgent organizations, the mobilization of the populace in support of the government, and balanced economic, sociological, and political development. Moreover, effective IDAD programs must be capable of adjusting to the intensity of insurgent warfare while employing the concept of "minimum essential force" in all situations involving the use of force. Military forces participate in IDAD operations through the conduct of intelligence, psychological operations (PSYOP), civil affairs (CA), populace and resources control, advisory assistance, and tactical operations.

Campaigns to execute IDAD plans are organized upon common objectives. Consolidation campaigns are organized in priority areas as an interdepartmental civil-military effort and seek to restore governmental control of the population and the area. They include programs for the improvement of economic, political, and social conditions. Strike campaigns consist of a series of major combat operations against insurgent tactical forces and bases in contested or insurgent-controlled areas.

Foreign Internal Defense (FID) is the term used to denote US military and civilian agency participation in IDAD programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency. Simply stated, FID helps others help themselves. The Army plays a major role in FID by providing military assistance to selected friendly nations in support of US national interests. Initially, this assistance may be training, advice, and materiel. In some special cases it may include ground combat

support as well. The extent of US participation will depend on US policy and interests, an analysis of the insurgent threat, and the capabilities and desires of the host country government. FID properly pursued is an economy of force venture where often limited resources are concerned. The effort requires both time and patience. Overnight solutions and quick fixes are not to be expected in FID.

Three tiers of forces are available to support a Unified Command in FID operations. The first tier consists of US Army security assistance forces (SAF), a specially trained, area-oriented, partially language-qualified, ready force for the support of operations in situations short of open hostilities and general war. SAF organizations vary in size and capabilities according to theater requirements. The second tier is drawn from overseas-based general purpose units designed as backup forces for the SAF. The third tier consists of forces based in the United States.

The SAF normally consists of a Special Forces Group as the nucleus, augmented with Civil Affairs and PSYOP units, combat arms, combat support arms, and combat service support elements tailored to requirements. Elements of the SAF can provide host country forces advice, assistance, and training in a variety of IDAD activities and techniques. SAF counter guerrilla operations in time of war are undertaken to provide enough internal security to enable the host country to implement its IDAD programs and pursue national objectives. Counter guerrilla operations in IDAD involve political, economic, sociological, and psychological considerations to a much greater degree than in general (high intensity) war operations.

Since US policy emphasizes the development of host nation self-defense

capability, the primary purpose of US Army assistance in IDAD is to increase the capabilities and efficiency of host country armed forces. It follows that Army personnel involved in assisting IDAD operations require specialized skills and abilities in addition to highly refined traditional military skills. US Army SAF personnel must be skilled teachers and inter-cultural communicators. Moreover, since they frequently will be the only Americans meeting face-to-face with host country soldiers, they must be articulate, well-informed, and exemplary representatives of their government and military service. Furthermore, they must have thorough knowledge of the area and region in which they operate. Area expertise is essential so they can identify the success or failure of overall US policy both from a purely military perspective and from the attitudes of the populace. In short, the US soldier in low intensity conflict must possess a degree of sophistication not usually required by military men to assess military efforts as a complement to overall development achievements.

#### B. SECURITY ASSISTANCE METHODOLOGY AND TERMS

The Commander of the United States Army John F. Kennedy Special Warfare Center (USAJFKSWC) at Fort Bragg, North Carolina has been designated by the Commander, Training and Doctrine Command (TRADOC), to act in his behalf in matters pertaining to overseas (OCONUS) foreign military training assistance and support. Inherent within the Commander's responsibilities is the requirement to form, train, process and deploy security assistance teams (SAT) requested through channels by friendly or allied countries, subsequent to approval by Department of State and Defense and as directed by Department of the Army. The SWC Commander maintains the Security Assistance Training



Management Office (SATMO) as his staff office for coordination of security assistance responsibilities. SATMO's functions include coordination of formation and deployment of Mobile Training Teams (MTTs), Technical Assistance Teams (TATs), Technical Assistance Field Teams (TAFTs), and Engineer Technical Service Specialists (ETSS). The MTT, TAT, TAFT, and ETSS are referred to as security assistance teams (SATs). Mobile Training Teams and TATs are employed for temporary duty (TDY) periods up to 180 days while TAFT's and ETSS are employed under permanent change of station (PCS) conditions. Security Assistance can also be classified by the manner in which it is funded, for instance, Foreign Military Sales Case (FMS) in which the foreign government contracts and pays for the services/goods provided, or "grant aid" under the International Military Education Program (IMETP) in which personnel from the host military normally are sent to the United States for training.

Requests for SAT are generated by foreign governments and submitted through the security assistance element (MAAG, Mission, MILGP, etc.) resident in the host country to the US Government. The requests are then reviewed by Department of State and Department of Defense. If the goods or services are available, the requested assistance is in the mutual interest of both governments, and funding can be arranged, they are approved. The requests, depending on type, are then processed through Department of Army and sent to TRADOC/SATMO for action. SATMO ultimately obtains personnel assets from the major commands, as appropriate to the designated task, and deploys them to the nation concerned to accomplish a specified mission. Should a SAF or a Joint Security Assistance Force (JSAF) be formulated, SATMO would, in all likelihood, not be involved because of the potential size and duration of the mission. SATMO's limited resources and the operational nature of the SAF

dictates direct involvement by Forces Command (FORSCOM) and the Special Operations Command (SOCOM) at Fort Bragg.

#### IV. TOMORROW'S SPECIAL OPERATIONS FORCES

##### A. SPECIAL FORCES CAPABILITIES AND APPLICATION

Special Forces (SF) units and personnel concentrate their efforts of acquiring in-depth foreign internal defense and unconventional warfare skills. This process entails structuring training programs to emphasize why insurgency occurs, and the secondary or tertiary nature of purely military solutions as compared with the political, social, and economic aspects of low intensity conflict (LIC). Such training must amplify the notion that in Foreign Internal Defense and Internal Defense and Development scenarios, one element of Special Operations Forces (SOF) literally cannot be everything to everybody, despite broader cross-training of personnel. Rather, it should reinforce the need for other special in-depth skills (Civil Affairs, PSYOP, Engineers, among others) suggesting a composite and integrated force. Such a force is hypothetically possible and in FM 100-20 is referred to as a Security Assistance Force (SAF).

Special Forces personnel, operating in tandem with other elements of a SAF, provide training advice and assistance to a host military which is experiencing or feels imminent a state of insurgency or lawlessness. SF elements concentrate on the martial aspects of the SAF's mission. They include training others in small unit tactics which address the isolation or elimination of insurgents in ways compatible with retaining or regaining popular support for the host government.

The primacy of teaching culturally divergent counterparts necessitates careful selection of individuals who are capable of enhanced language skills together with an ability to empathize and work within the other culture. The intent is to instill FID and UW concepts in a way that is acceptable and understandable to those being trained. Lesson plans and training programs designed for Americans are counterproductive and should be restructured and redesigned in the language and culture of those receiving the instruction.

The high regard for Special Forces held by many armies of the developing world makes the "green beret" an indispensable tool in teaching how to deal with the military aspects of an insurgency or state of lawlessness. This credibility must be sustained and exploited by our policy makers (National Command Authority). Their role as trainers and educators must not, except in extremely exceptional cases, be confused or denigrated with ideas of deploying as "doers". That is not to say that the two roles ("doers", teachers) are mutually exclusive. The teacher that can effectively educate a culturally divergent counterpart in basic FID/UW skills, and who maintains a high state of physical conditioning, will be a superior "doer" if and when the need arises. However, if a choice has to be made between the acquisition of teaching or "doing" skills, the former must take precedence when the SAF attempts to help others help themselves. Failure to accept this premise regresses the US assistance effort to late in the Vietnam-era when Special Forces became "doers". Such a state of affairs delays or precludes the day when the host country armed forces act effectively to prevent or defeat insurgency.

## B. CIVIL AFFAIRS CAPABILITIES AND APPLICATION

Civil Affairs (CA) personnel and actions are a key to successful FID and UW operational advice and assistance. The CA approach to the "battlefield" focuses on the civilian population to the extent that the people (and their support for the government) will determine the ultimate outcome of the conflict. The CA doctrinal mission is to "plan, advise, conduct, and supervise those contacts between the commander and the indigenous population and leadership". To accomplish this, CA students (97% of whom are in the US Army Reserve ... Civil Affairs has never existed as an active duty branch) are required to complete an interpretive country study in which a foreign culture and populace are analyzed in terms of what is important to the society and why this is so. The exercise is followed by an area assessment in which civilian resources or the lack of them are identified. This data is used to determine the extent of popular needs or the degree to which the people may be able to support military initiatives. The inescapable fact is that the CA approach is particularly pertinent for low intensity scenarios where popular support for the government (or the lack of it) reigns supreme.

Optimally, CA support in insurgent or preinsurgent conditions would occur on two levels. The more important aspect of CA advice/assistance could be termed strategic civil affairs. Strategic CA (similar to that in the Israeli Army today) provides both the host government and its military with training/advice/assistance relative to the Internal Defense and Development Plan. CA strategic specialists, working together with host nation and US agencies and officials, assess the ability of the host government and military to meet the total needs of a population vulnerable to insurgent activity.

These assessments, carefully and thoughtfully formulated, become the basis for the IDAD plan. Helping to implement and monitoring the plan are follow-up duties for the CA strategic specialist.

The next level of advice/assistance is command support (functional) CA. Reserve CA capabilities involve twenty functional teams ranging from public facilities and civil information to cultural affairs and arts, monuments and archives. Each of the twenty teams ostensibly has specialists well-versed in restructuring a government capable of administering the needs of its people. The assessments made by the few CA strategic specialists determine the command support (functional) specialists or teams required. The strategic specialist monitors the implementation of the command support CA specialists.

CA strategic and command support (functional) specialists advise military (host nation and US) commanders in two very important areas. The strategic specialist must be able to evaluate and communicate the impact of military operations on the civilian population. Hostilities often produce civilian casualties and deprivation, which, left unassuaged, drive the populace farther away from those they must support if stability is to be realized. The chance of unacceptably high casualties or devastation in the civilian sector in comparison with purely military goals must always be analyzed and weighed. The CA strategic specialist, a soldier himself, is a prerequisite for a viable Security Assistance Force (SAF).

Both strategic and command support specialists, working with the host military, develop and assist technically in military civic action. Such projects undertaken by the host military, and if properly conceived and implemented, indicate to the populace that the indigenous military is

concerned with civilian welfare. Military actions represent the government to the people and can contribute substantially to the popular support required for the its survival. Military civic action comprises those projects which benefit the civilian populace in economic and social ways. The military, acting in consonance with other joint planners and implementers, becomes a positive factor in precluding insurgent warfare or in isolating guerrillas after the initiation of hostilities.

If the preceding theories are to become reality, several important strides must be made for CA. First, an active duty branch capable of selecting, educating and monitoring CA specialties should be seriously considered. The current single CA battalion on active duty (few of whose personnel have CA qualifications) must be expanded and given more education and training along functional specialist lines. For CA strategic specialists, many years (the Israelis educate theirs for approximately a decade) of education and training are necessary to insure that the culture, language, governmental structure and military of a country are mastered. This expertise must be combined with a knowledge of US goals/interests in the country together with an understanding of US Army capabilities and limitations. The sum total of these efforts can produce, perhaps for the first time, an officer who understands the political ramifications of military actions and one who has the ability to monitor employment of CA command support specialists to assist both the host government and military in the vital area of developing a society at its own pace. When such individuals are properly applied and allowed sufficient time to operate, hostilities can be prevented. Such an approach offers a fundamentally sound challenge to the revolutionary process.

### C. PSYCHOLOGICAL OPERATIONS CAPABILITIES AND APPLICATION

It is trite but very true that Low Intensity Conflict is the battle for the hearts and minds of people. Because of this, psychological operations (PSYOP) must be an integral part of all operations in LIC. It is PSYOP that gives Security Assistance Forces the necessary force multiplier to defeat the enemy without resorting to an application of military force that might escalate hostilities to a higher form of conflict.

It is vital to stress that PSYOP cannot be thought of as a "nice to have" extra. It must be considered co-equal or superior to tactical operations because, to paraphrase Sun Tsu, supreme excellence in battle is not winning the fight, but winning without fighting. Although a SAF may well have to train its counterparts in battle skills, it would be superior if it could train the techniques for winning without fighting. Whatever a SAF might be able to accomplish that would reduce the need for actual combat will be magnified directly in proportion to the effectiveness of the PSYOP used. For instance, the combat capability of the enemy force is not only reduced by successful offensive operations, it is further decreased by a well planned surrender and amnesty campaign. Another example, a populace and resources control campaign, will deny the insurgents important freedom of movement and access to resources and will be even more effective when it is enhanced by a PSYOP campaign which convinces the people to cooperate fully with the program.

In more comprehensive terms, SAF PSYOP personnel must be prepared to advise and train on programs and techniques to accomplish the following general missions:

- 1) assist the government in gaining or maintaining the support of the population;
- 2) assist the government in defeating the insurgent forces;
- 3) assist the government in providing psychological rehabilitation for returnees from insurgent forces or their support groups;
- 4) assist the government in establishing a favorable image with international audiences.

In order to accomplish this impressive array of missions, SAF's must be provided with doctrinal, personnel, and materiel resources that are adequate for the task. At present, there are notable deficiencies in each of these areas.

#### Doctrine

Present doctrine for the structure of a SAF calls for "a composite organization of units organized under a Special Forces group headquarters." It makes sense to establish clear lines of command and control, but the selection of a Special Forces element as the primary command focus virtually guarantees that the operational emphasis of the SAF will be on Special Forces and not on PSYOP, Civil Affairs, or other Special Operations Forces. Even though the new Special Operations Forces concept includes SF, PSYOP, CA, Rangers, and Special Operations Aviation, the actual community is dominated by those with SF as their primary experience with other specialties as a minor background if they are present at all. This is not a deliberate or malicious effort on the part of the SOF community, but it is the natural result of the



preeminence of SF over the past two decades. The net result is that a SAF organized under an SF group headquarters is very likely to be lacking in true PSYOP expertise in command or staff personnel. Over time, this problem may be remedied as PSYOP expertise becomes more readily available. However, intermediate solutions may be necessary in order to guarantee that adequate consideration of PSYOP is given within an organization that is dominated by personnel who are not trained or experienced in the discipline.

Although the current doctrine does require augmentation by PSYOP, CA, and other types of units, with command and staff dominated by a single doctrine (whether SF or any other single specialty), there is a very real potential for underutilization of these assets. Doctrine should be modified to create a SAF command element which integrates all specialties and is not dominated by a single one. One simple and highly expedient means to increase PSYOP utilization would be to vigorously pursue integrated training of all SOF specialties. Training exercises will be much more realistic and valuable when SF, PSYOP, CA, Ranger, and Special Operations Aviation all combine in an FTX scenario. It would have been much easier to effectively utilize the US SOF assets in Grenada, for instance, if the SOF elements routinely trained for deployment in such an eminently probable situation.

#### Personnel

At present, the Army PSYOP personnel resources are extremely limited. With only one PSYOP Group comprised of less than 700 personnel, it is obvious that the capability to support extensive SAF operations is limited. The active Army Group must not only be available to support a range of operations in Low Intensity Conflict, it must also support the needs of the unified

commands around the world. Just as in Civil Affairs, a larger PSYOP asset exists in the Army Reserve. In fact, over 80% of the Army PSYOP forces are in the Reserve. However, the War Powers Act and other limitations continue restrict the use of these forces.)

In order to assure that there are adequate PSYOP assets to support potential SAF deployments in several regions simultaneously, it is probably necessary to develop additional PSYOP units. One possible solution to this problem would be to create organic PSYOP companies in each Special Forces battalion. At the same time, this solution would relieve the active duty Group from its current over-extension while providing continuing PSYOP expertise in SF units to remedy the problem mentioned above. This approach should be vastly superior to the current last-minute task organization that is currently in use. Although the concept of task organization makes excellent sense in conventional military applications, the special geographic area-orientation and coordination of personnel required for successful SOF operations argues against it for SAF operations and other SOF missions.

If this organic SAF PSYOP asset is to be provided, special care must be given providing training to those personnel in the advisory and training skills that will make them as effective in working with the host nation personnel as in their own primary function as PSYOP practitioners.

Two new initiatives in the PSYOP field will improve the availability of adequately trained personnel for a range of needs. The Army has implemented a new PSYOP enlisted career field which will improve the quantity and quality of training available to enlisted and noncommissioned personnel. At the other end of the spectrum, the Army has been given executive agency for Joint PSYOP

training DOD-wide and is developing a course to train staff at the unified command level who will be planning and implementing PSYOP in support of war plans and contingencies. This growing awareness must be nurtured and supported by the senior commanders of all US military services.

### Materiel

Equipment limitations on PSYOP are severe, but relatively low cost enhancements would significantly improve the current capabilities. For instance, the recent experience with Operation Urgent Fury in Grenada showed the very real limitations of the broadcast radio equipment now in the inventory. The system, the AN/TRT 22, is thirty year old technology which is much more difficult to deploy and use than state-of-the-art hardware would be.

Another equipment shortcoming is the limited availability of airborne broadcast radio capability. The Air Force Coronet Solo II is an outstanding broadcast platform, but only four aircraft currently exist and their deployment limitations are dictated by their location (Pennsylvania) and airframe (C-130). Even though it might not be economically feasible to deploy more Solo aircraft, it should not be difficult to create a palletized transmitter and trailing wire antenna system which could be carried on any C-130. Even though these systems would not have the full Solo capability, they would handle many, if not most, of the requirements of airborne transmitter support for LIC.

A relatively unexplored but potentially potent PSYOP dissemination assets would be direct broadcast satellites (DBS). The use of DBS technology is

still subject to extensive debate in the UN and other forums, but the power of this hardware demands that its application in PSYOP can be carefully considered.

#### The PSYOP "Bottom Line"

In the same way that there can be no doubt over the need for Security Assistance Forces to deal with LIC, there can be no serious doubt over the need for fully integrated PSYOP in all SAF operations. Inseparable from a nation's attempt to control the violent aspects of the low intensity conflict within its boundaries must be the greater challenge of regaining or retaining the moral and spiritual support of its people. Military PSYOP is not the only tool for accomplishing this goal, but is sufficiently important that any national program lacking it is certainly deficient in a critical and potentially fatal way.

As the Army and the other services plan, equip, and train for the 21st Century, they must recognize that PSYOP is much more than the old "leaflet and loudspeaker" operations of the past. State-of-the-art technology and every available capability in persuasive communication must be exploited. We must be skillful and determined in our use of PSYOP in order to prevent unnecessary casualties and to win the battle for "hearts and minds."

#### D. RANGERS CAPABILITIES AND APPLICATION

The Rangers became an integral member of the Special Operations Community and a major subordinate unit of the 1st Special Operations Command because of their unique capabilities to conduct certain Special Operations. Currently, the Rangers consist of a Ranger Regiment with three subordinate battalions.

The Ranger Regiment, through its subordinate Ranger battalions, has the mission of planning and conducting both conventional military operations and Special Operations against targets of strategic and great tactical value.

Ranger missions are categorized as strike, conventional light infantry (when properly augmented), limited tactical reconnaissance in support of Ranger operations, and Special Operations such as rescue and show-of-force. Mission flexibility is enhanced considering that Rangers can be inserted through air, land and water means. Normally, mission targets require the violent application of force, with scrupulous control of military power, where the consequences of failure are so great that their possibility must be reduced to the greatest extent possible.

Ranger operations are characterized by: detailed centralized planning and decentralized execution; insertion near or on the objective; maximum physical and psychological effect on the enemy; limited duration; and continuous day-night, all weather operations.

In a theater, command and control of Rangers is initially at the unified command level because they are considered strategic assets. For specific operations command and control will normally pass to the supported unit, the command echelon able to provide resources necessary to employ it. Rarely will Rangers be employed below corps level.

Ranger units can be swiftly deployed worldwide, when and where US military presence or participation with a host nation military would serve US interests. Their mission is to establish a credible American presence to demonstrate US interest and/or resolve, and to indicate US military

preparedness and strength. Ranger units, when conducting combined operations with forces of a host country, also serve as a tangible example of military proficiency for their counterparts. The martial nature of the force dictates that its employment be given careful consideration especially in areas concerning US and international public opinion. SAF utilization of Rangers cannot be ruled out, especially in scenarios where hostilities predominate.

#### E. SPECIAL OPERATIONS FORCES (ARMY) (AIR FORCE) AVIATION CAPABILITIES AND APPLICATION

SOF (Army) Aviation is the latest addition to the Special Operations Community. Its emergence is owed to the Special Operations Forces Mission Area Analysis, which is the same document which spawned the Special Operations Command at Fort Bragg. It is imperative that SOF (Army) Aviation units and personnel be prepared to integrate with other SOF elements forming a Security Assistance Force (SAF). Because US forces are, by law, specifically forbidden to enter combat areas in insurgency scenarios world wide, and because the SAF's primary mission is to train the host military to be independent operationally, SOF (Army) Aviation trainers must not lose expertise on what might be perceived as obsolete aircraft in the US inventory. Most developing nations simply cannot afford to buy and maintain sophisticated aircraft. Therefore, US trainers must be prepared to train host country personnel in the aircraft that are currently being used in the contemporary conflict. Central American nations are perfect cases in point today. Their budgets do not allow them to operate beyond the UH1 and LOH capability. SOF (Army) Aviation personnel should be prepared to train on aircraft types that may or may not be in the Army inventory. Their expertise must be such that they can train host

country aviators on aircraft that meet only minimum requirements regarding safety, communications, and comments. The requirement is to train host country aviators on aircraft and tactics that they must, because of fiscal constraints, use and employ in the coming decades.

Should US forces become actively engaged in Low Intensity Conflict (LIC), the primary mission for Special Operations (Army) Aviation is the successful insertion, resupply, and extraction of SOF in a wide range of environments. To accomplish that mission specialized equipment, training and planning is required. Currently the Aviation Center at Fort Rucker, Alabama has the proponency for SO Army aircraft with input from the Directorate of Combat Developments John F. Kennedy Special Warfare Center at Fort Bragg, NC. Training, other than military occupational (MOS) producing schools, is conducted within the SO aviation battalion (SOAB) as well as the detailed planning for particular missions. The SOAB currently has updated versions of Army aircraft to include the UH-60 (Blackhawk) helicopter and the CH-47 (Chinook) helicopter which supplement other aircraft within the battalion.

1. Special considerations for employment of the SOAB in a low intensity conflict. Mission, enemy, and terrain are the primary considerations when considering employment of aircraft. Daylight airmobile assaults as used in Viet Nam cannot be expected to be successful when, in today's environment, "the aircraft that can be seen can be destroyed" is especially true. Therefore, the key to survival and mission accomplishment is not to be detected. SOAB flight personnel train specifically in night operations under blackout conditions. They also are trained to operate in conditions of reduced visibility which limits optical detection. Extreme low-level, nap of

the earth (NOE) flight is also a method of flight practiced by SOAB aviators. This tactic is extremely effective in LIC operations because even though the sound of the rotor blades may be heard in advance, the aircraft is viewed too briefly to be engaged.

Terrain and range can be the most limiting factors in the employment of aviation assets. Special operations may occur worldwide, therefore, aviators must be trained to operate effectively in a wide variety of climatic extremes in all areas. Both aviators and aircraft equipment must be available to support operations in diverse environments ranging from arctic snow to desert sand. Although there are now specific aircraft modifications designed to increase aircraft range, the requirement still exists to self-deploy limited aircraft assets over great distances.

2. Specific aircraft requirements in a LIC environment. In a low intensity environment, the SOAB aviator may be required to operate alone, flying (NOE) for long distances. The aircraft will be expected at a precise position, undetected, at a particular time. Specially equipped aircraft are required for such complex missions.

Generally, the aircraft utilized in the SOAB have been modified in order to enhance survivability, range and the particular mission being supported. Among the modifications made were night vision goggle (NVG) compatible cockpits and position lights which enhance night operations. Increasing range is difficult since adding fuel tanks normally decreases mission payload. Therefore, mission planning becomes even more important in long range mission proposals. New lighter fuel tanks will enable greater range with existing



aircraft. Avionics also have been modified or upgraded to provide the aviator with better navigational information so vital, in terms of the exactness required, during mission execution.

3. Upcoming improvements to SOAA. Currently, range is a limiting factor in the employment of available aircraft. Although steps have been taken to increase the range or arrange for a forward area refueling point (FARP) to service aircraft on long missions, it is always to the degradation of either mission capabilities or operational security. An aircraft that is coming into the Army inventory that may be suited for the SOAB is the HH-53H. The aircraft has the capability for self development, NOE/adverse weather operations and can be equipped with some detection avoidance equipment. Combat radius is 200 to 330 nautical miles depending upon the weight carried. In addition to the crew, the aircraft can carry 20 soldiers fully equipped. The Air Force currently employs HH-53H in a variety of roles, thus providing an aircraft that has been flight tested in actual day-to-day missions. Although modifications of existing aircraft may, in the near term, improve aircraft capabilities, long term answer for comprehensive mission requirements may be the new Joint Services Advance Vertical-Lift Aircraft (JVX).

The JVX, due to be available in adequate numbers sometime in the early 1990s, possesses and extended range for Special Operations missions. The aircraft will be capable of flying at or below 500 feet above ground level (AGL) with 12 troops or 2,180 pounds of cargo, and with a mission radius of 700 nautical miles. The aircraft design is tilt rotor, which incorporates many of the attributes of helicopter and fixed wing aircraft. It will be designed for night operations and will employ advanced navigation equipment.

Maintenance of the aircraft will be designed to be simple, thereby allowing the aircraft to be deployed without a large contingent of support maintenance. This aircraft will add a new dimension in the SOAB that is clearly needed.

4. United States Air Force Special Operations. Air Force Special Operations Forces are an invaluable asset to the Special Operations team. The proven reliability of support from MC-130 Combat Talon and AC-130 Specter aircraft is well documented. Air Force Special Operations ground units that provide expanded capabilities to the Special Operations mission includes the Special Operations Combat Control Team (SOCCT), Special Operations Photo Cell (SOPPC) and the Special Operations Weather Team (SOWT). Individuals of the SOCCT and the SOWT are airborne and SCUBA qualified.

The role of the USAF SOF in Foreign Internal Defense (FID) is to provide assistance and training in airlift, resupply, radio relay, surveillance, fire power and weather data gathering techniques. Air Force SO personnel are specifically trained for participating in a FID environment at the USAF Special Operations School.

The Air Force and Army Special Operations Aviation communities work together to provide responsible and flexible support to the SOF mission. Each has particular capabilities inherent in their organization that lend themselves to operations or training in almost any environment.

5. Conclusion. In today's rapidly expanding arena of special operations requirements, Army aviation's abilities must match projected mission requirements. Therefore, continued emphasis is being placed on upgrading

aircraft, doctrine, equipment, and training to meet the needs of the special operations forces. The challenge is two-fold; meet the need today and in the future.

#### F. SPECIAL OPERATIONS FORCES INTEGRATION

The Security Assistance Force (SAF) is, on paper, a composite unit designed to integrate SOF with other combat support and combat service support elements so as to provide viable FID advice/assistance to a threatened host military and government. To date, such a force has never been totally assembled, and there are real problems when contemplating true integration. Ostensibly commanded by a Special Forces headquarters, there is doubt as to whether the commander could understand and employ effectively all elements at his disposal, specifically Civil Affairs, Psychological Operations and Special Operations aviation assets. Extremely little training and education pertinent to specialties such as Civil Affairs is provided to SF, and CA perspectives are not widely understood or appreciated in the Special Operations community. There is some justification for this as CA is not an active branch, and the one active CA battalion is virtually bereft of functional expertise. These factors must be overcome if the SAF is to succeed. (NOTE: Conversely, the SF commander does have more of an appreciation of other SOF elements than would a conventional commander.) When CA, PSYOP, military police and others are viewed as equal partners in the SAF (and are through proper education and training), success readily beckons. Provincialism within SAF elements impedes or precludes mission accomplishment.

SOF elements, if SAF integration is to become reality, must begin to train with one another, and to place more instruction in their individual

qualification courses pertinent to each other. One primary area in which all could and should train together involves teaching host nation counterparts. Another contribution to force integration entails inserting problems associated with other SOF elements expertise into current training missions and to play these segments seriously. Commanders at all levels within SOF must begin to break down the old barriers that prevent force integration and the benefits of such a reality to the US and its allies. (NOTE: An integrated SAF is in reality no different from the combined arms approach except that the application entails other than purely military skills and approaches.)

#### 1. Precluding An Insurgency.

To preclude an insurgency the SAF, as well as civilian agencies of the US, needs to be invited in by the host country prior to the onset of violence or hostilities. Various elements of the SAF are preoccupied with three major missions: assessing internal difficulties which include host country government attitudes and capabilities; working with the host government and military to draw up a plan for Internal Defense and Development; and training the host military so that indigenous SOF counterparts (SF, CA, PSYOPS) capable of enhancing development and defense are available. This last mission, to train host nation counterparts, is extremely critical in that a combination of factors might preclude later direct US involvement or retention of the SAF for a protracted period. Staying away from the "doer" syndrome dictates comprehensive skill development within the host military. Civil Affairs governmental expertise used in conjunction with US civilian agency personnel provides an excellent liaison when assessing the degree of involvement for the

military/civilian sectors in the development process. The intent is to help create a favorable situation in which civilian government and military work together to help solve political, social, economic and potential internal security problems. Naturally, it is much less tenuous to undertake these activities when the participants are not being confronted daily by insurgents or terrorists, all of which cause great anxiety in public opinion worldwide (especially in the US when American soldiers are the targets).

## 2. To React to Insurgency.

US involvement in low intensity conflict has been in a reactive mode. Crisis and the potential loss of allies produce a knee-jerk of furious, if historically ineffectual, activity. Sadly, the focus of the reaction for civilians and military alike is primarily directed toward the guerrilla or insurgent force. This is exactly what Mao and Ho Chi Minh wanted and expected. In Vietnam and today in El Salvador there is, for the most part, great haste and desire within the US and Salvadoran military to kill the insurgents. Large amounts of money and technology are expended in this "body count" mentality. Insurgent strategists usually turn the battalions, money and technology sent after them into weapons supporting the revolutionary process.

The SAF, employed early on in a relatively peaceful scenarios, and with proper composition, education, training and leadership can reverse our historical faux pas by following the same tenets applied in a preclusive involvement. SAF advisees must be taught that military initiatives are always measured against their impact on the civilian populace. SF units especially must focus on surgical operations designed to kill or isolate

insurgents without incurring undue civilian casualties or property loss. Police, paramilitary and civilian defense forces require the same instruction. SAF military police support and training for host nation counterparts within the country is currently illegal, a situation which must change if effective forces are to be created. Small unit tactics approximating those of the guerrillas must be instilled in the host military so as to defeat the insurgent at his own game. Civil Affairs must stress military civic action and the creation of popular attitudes favorable to the host forces and government. PSYOP must exploit the good (military civic action) provided the people by the host military and government while emphasizing insurgent vulnerabilities. The entire effort is designed to regain or maintain popular support for the host military and government. The approach is decidedly unconventional, but approximates the insurgent strategy which has achieved success around the world. Understanding, patience, and careful and thoughtful planning and employment of human and material US resources will provide a SAF a chance for success. Reactive SAF must equate to developing true counterinsurgent forces capable of maintaining popular support. Anything less is unacceptable and promises continued failure.

#### G. FORMULATION OF THE SECURITY ASSISTANCE FORCE

The efficacy of any Security Assistance Force (SAF) will be determined by several outside or peripheral factors. The specific composition of the SAF should be directly related to an internal threat analysis for the particular country. Ideally, the threat analysis is completed in an objective and comprehensive fashion by a joint team composed of host nation and, where necessary, United States civilian and military personnel (perhaps the country

team). The analysis includes the internal causes for unrest together with the ability of the host nation's civilian and military agencies to deal with these destabilizing factors given the human and internal assets which might be brought to bear.

It must be stated that, if the SAF is to be successful, it will be an integral part of a larger effort composed of the US Country Team, to include civilian agencies and military assistance and advisory groups (MAAGs), among others. These elements, understanding that a SAF capability is available, must present in a timely fashion this option to the host country national leadership in order that the SAF be employed propitiously. Failure of an integrated approach at the country team level will jeopardize successful SAF mission accomplishment.

When internal assets are found to be inadequate based upon the threat analysis, the host government acts to request the aid required to deal with its problems. If Special Operations Forces (SOF) or related military trainers are needed, the host government asks the Military Group (MILGP) or Military Assistance and Advisory Group (MAAG) commander for the requisite assistance. The request is forwarded to the United States and is approved at various levels of the Departments of State and Defense. The Special Operations Command (SOCOM) would be responsible for specific formulation of the SAF, with advice and assistance from the Security Assistance Training Management Office (SATMO) at Fort Bragg.

Most SOF assets needed to train trainers are usually proximate to SATMO. The ideal situation following a specific request for assistance is that SATMO, armed with an up-to-date list of SOF trainers, to include their technical,

linguistic and cultural expertise, provide the SOCOM and SAF commander with the personnel qualified and available to go. This simplified yet effective approach requires that each SOF or SOF-related area of expertise (CA, PSYOP, SF) establish a pool of personnel designed to train trainers. A composite SAF consisting of all or part of the total SOF expertise can be selected with substantial assurance that the personnel identified could train trainers.

The SAF, perhaps through rotating qualified personnel in and out on PCS tours (if needed), is designed to provide long term assistance to the host government and military. The reality that the insurgents take a protracted view of the struggle dictates a similar approach through a SAF. The SAF ideally is employed in two stages. During the initial stage intensive training of indigenous trainers is accomplished. The final stage indicates observation of the host nation's trainers while they train other trainers or military units. Should this latter effort be successful to the extent that the host military is capable of performing its task in correct fashion, the SAF is directed to return to the United States following a successful mission accomplishment.

Current security assistance restraints hamper a potentially successful SAF. The near-paranoid guidelines (War Powers Act) which restrict trainers to non-combat areas prevent an adequate assessment of the capabilities of the host nation's armed forces. First, hard views are needed to determine whether or not the trained trainers are coping with the exigencies of the conflict. United States law forbidding the use of US military police to train counterparts in the host country deny the SAF a vital means of developing host



nation expertise at the vital constabulary level. Chronological constraints in terms of prearranging the amount of time the SAF is committed should not derive the mission.

The Security Assistance pipeline offers the potential for meeting real needs for the militaries of the developing world. However, until the time that a thorough threat analysis drives a request for specific technical, linguistic and cultural assistance, the SAF concept will not prove effective. Once a threat analysis is in place, there remains the need to identify specific SOF or SOF-like assets which are available to form a composite SAF designed to train the trainers of the host nation. If these personnel are given the requisite education and training, and if they are allowed sufficient time to complete their work, the SAF offers real hope for internal stability scenarios worldwide.

#### H. JOINT SECURITY ASSISTANCE FORCE

Many nations anticipating or experiencing internal instability require assistance beyond that which may be provided by Army Special Operations Forces. It is envisioned that future SAFs will be required to train indigenous flight and shipboard personnel. Civilian agencies surely will be involved in similar processes. The ideal situation for employing such diverse assets starts with a request for a SAF survey team by a friendly government anticipating internal problems. The team, composed of civilian and military personnel and working in conjunction with host country counterparts, conducts an exhaustive study of the reasons for potential difficulties. Based upon the results of the survey, the joint study group, after comparing the availability

of host nation human and material assets with the parameters of internal unrest, formulates a comprehensive Internal Defense and Development (IDAD) plan.

The IDAD plan, inter alia, identifies the need for SAF personnel to train indigenous counterparts. The number of individuals needed and the requisite skills of each are requested. A SAF specifically selected to meet the needs of the country as enunciated in the internal analysis (study) and the IDAD plan is carefully assembled. The control element of the SAF could emanate from either military or civilian environs, but in any case works in tandem with the country team (and perhaps host and international relief agencies) to fulfill the provisions contained in the IDAD plan.

Something akin to the joint SAF concept was attempted late in the Vietnamese conflict and is mentioned earlier in the paper. Referred to as Civilian Operations Revolutionary Development Support (CORDS), this agency was a composite military/civilian force charged with enhancing pacification at various administrative levels. CORDS, if nothing else, demonstrated that a centrally controlled, composite civilian/military force could function well in a low intensity conflict environment.

Hopefully the first SAF will not have to operate in a situation where hostilities have already begun. If requested in a timely manner and staffed by qualified personnel under central direction, SAF at the joint level offers real promise for defusing insurgencies in the making. (Note: The joint scenario requires ongoing studies to take a hard look at the peacetime application of a SAF. One very important derivative of a peacetime SAFs is that the Special Operations Commands designed for each theater command in a

wartime scenario could be afforded the opportunity to train personnel and prepare properly should hostilities ensue. A most important question needs to be asked: Are the proposed wartime SOCs (SOCLANT, SOCEUR, etc.) capable of conducting successful operations without peacetime practice?)

## V. CONCLUSION

There is no substitute for understanding the parameters of East-West confrontation in the developing world. At present, there is scant hope that massive US preparation for potential conventional/nuclear battles with the Soviets will allow adequate preparation for current low intensity conflicts, which show no sign of abating. Heads must be plucked out of the sand before more losses occur, which may encourage the Soviet Union to risk a much larger conflict. If, surprisingly, Special Operations Forces are accorded the opportunity to properly organize with appropriate doctrine, the real question is whether individual expertise required will be manifested and employed to the extent that the US military becomes a contributing factor in the development of national institutions capable of defying the rapidly progressing revolutionary process.

The peacetime application of SOF expertise (SF in training an indigenous force; a concerned PSYOP training effort designed to elicit support from the grass roots; CA strategic and command support guidance and training for the host government and military; SOF Aviation enhancement of host capabilities), integrated in the form of a SAF and supported by the country team and US government agencies, could be the economy force of the 21st century. Used effectively, and consisting of highly trained and educated personnel, the force could markedly preclude the commitment of massive US support, thus

saving countless American lives, and offering an opportunity for freedom to struggling nations. We cannot shrink from the challenge and dare not fail, lest the promise that is American stop at our borders.

## VI. GLOSSARY OF TERMS

civil affairs-- Those phases of the activities of a commander that embrace the relationship between the military forces and civil authorities and people in a friendly country or area or occupied country or area when military forces are present. Civil affairs include, inter alia: 1. matters concerning the relationship between military forces located in a country or area and the civil authorities and people of that country or area usually involving performance by the military forces of certain functions or the exercise of certain authority normally the responsibility of the local government. This relationship may occur before, during, or after military action in time of hostilities or other emergency and is normally covered by a treaty or other agreement, expressed or implied; and 2. military government: the form of administration by which an occupying power exercises executive, legislative, and judicial authority over occupied territory.

counterguerrilla warfare-- Operations and activities conducted by armed forces, paramilitary forces, or nonmilitary agencies of a government against guerrillas. (Note: NATO does not use the words "of a government.")

counterinsurgency-- Those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency.

foreign internal defense-- Participation by civilian and military agencies of a government in any of the action programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency.

insurgency-- An organized movement aimed at the overthrow of constituted government through use of subversion and armed conflict.

internal defense-- The full range of measures taken by a government to free and protect its society from subversion, lawlessness, and insurgency.

internal development-- Actions taken by a nation to promote its growth by building viable institutions (political, military, economic, and social) that respond to the needs of its society.

internal security-- The state of law and order prevailing within a nation.

irregular forces-- Armed individuals or groups who are not members of the regular armed forces, police, or other internal security forces.

military assistance advisory group-- A joint service group, normally under the military command of a commander of a unified command and representing the Secretary of Defense, which primarily administers the US military assistance planning and programming in the host country. Also called MAAG.

Military Assistance Program-- That portion of the US security assistance authorized by the Foreign Assistance Act of 1961, as amended, that provides defense articles and services to recipients on a nonreimbursable (grant) basis.

military civic action-- The use of preponderantly indigenous military forces on projects useful to the local population at all levels in such fields as education, training, public works, agriculture, transportation, communications, health, sanitation, and other contributing to economic and social development, which would also serve to improve the standing of the

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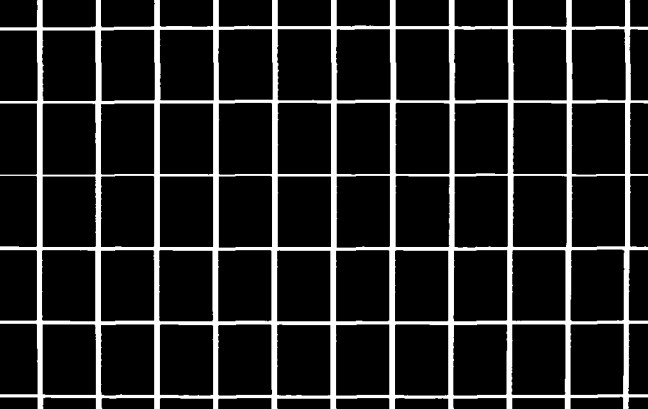
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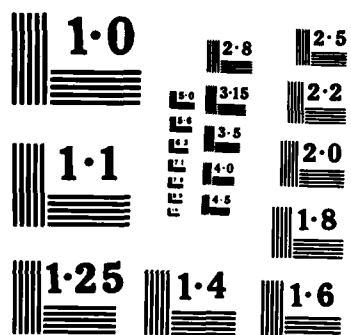
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NATIONAL BUREAU OF STANDARDS  
MICROCOPY RESOLUTION TEST CHART



military forces with the population. (US forces may at times advise or engage in military civic actions in overseas areas.)

mobile training team-- A mobile training team consists of one or more US personnel drawn from service resources and sent on temporary duty to a foreign nation to give instruction. The mission of the team is to provide, by training-instructor personnel, a military service of the foreign nation with a self-training capability in a particular skill.

psychological operations-- These operations include psychological warfare and, in addition, encompass those political, military, economic, and ideological actions planned and conducted to create in neutral or friendly foreign groups the emotions, attitudes, or behavior to support the achievement of national objectives.

psychological warfare-- The planned use of propaganda and other psychological actions having the primary purpose of influencing the opinions, emotions, attitudes, and behavior of hostile foreign groups in such a way as to support the achievement of national objectives.

psychological warfare consolidation-- Psychological warfare directed toward populations in friendly rear areas or in territory occupied by friendly military forces with the objective of facilitating military operations and promoting maximum cooperation among the civil populace.

public information-- Information of a military nature, the dissemination of which through public news media is not inconsistent with security, and the release of which is considered desirable or nonobjectable to the responsible releasing agency.

security assistance-- Groups of programs authorized by the Foreign

Assistance Act of 1961, as amended, and the Arms Export Control Act of 1976, as amended, or other related statutes by which the United States provides defense articles, military training, and other defense-related services, by grant, credit, or cash sales, in furtherance of national policies and objectives.

special operations-- Operations conducted by specially trained, equipped and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible.

unconventional warfare-- A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy controlled or politically sensitive territory. Unconventional warfare includes, but is not limited to, the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low visibility, covert or clandestine nature. These interrelated aspects of unconventional warfare may be prosecuted singly or collectively by predominantly indigenous personnel, usually supported and directed in varying degrees by (an) external source(s) during all conditions of war or peace.

unconventional warfare forces-- United States forces having an existing unconventional warfare capability consisting of Army Special Forces and such Navy, Air Force, and Marine units as are assigned for these operations.

unified command-- A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more services, and which is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff, or, when so authorized by the Joint Chiefs of Staff, by a commander of an existing unified command established by the President.

United States Army Special Forces-- Military personnel with cross training in basic and specialized military skills, organized into small, multiple-purpose detachments with the mission to train, organize, supply, direct, and control indigenous forces in guerrilla warfare and counter-insurgency operations, and to conduct unconventional warfare operations.

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**POLICY, STRATEGY, FORCES:  
THE SEQUENTIAL BASIS OF MILITARY CAPABILITY  
FOR LOW INTENSITY CONFLICT**

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the author and do not reflect the official policy or position of the  
Department of Defense or the United States Government**

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POLICY, STRATEGY, FORCES:  
THE SEQUENTIAL BASIS OF MILITARY CAPABILITY  
FOR LOW INTENSITY CONFLICT

Many argue that the United States' military forces are most prepared for the least likely conflict--full scale, direct military confrontation with the Soviet Union in Central Europe. In contrast to that preparation almost all threat assessments agree that the most probable conflict facing the United States through the end of the century will be within the lower level spectrum.<sup>1</sup> This apparent mis-preparation is the subject of much professional and academic discussion.

In reality a military capability not able to effectively deal with the most likely form of "day-to-day" conflict facing a nation is a marginal one. And in absolute terms the President of the United States will expect the country's military forces to be able to effectively apply force at *whatever level* required, *whenever* required in pursuit of national interests and objectives. To find the "extension of policy by other means" incapable of the task when it is needed as "the last resort" is not characteristic of a true international superpower. In fact, the words of military historian Jeffrey Record ring true, "the unsuccessful use of military power for the most compelling political ends can be just as detrimental to the nation as the successful use of force for unjustifiable reasons. A

fundamentally flawed military instrument is itself a danger to national well-being."<sup>2</sup>

The *premise* of this paper is that long before any presidential decision to use force, past national policy, traditional military grand strategy and available military forces will have significantly determined actual capability to successfully execute a military operation.

### THE VARIABLES

Policy, strategy and force structure variables provide the sequential basis for military capability, that is, national strategy and policy form the foundation for military strategy; military strategy forms the foundation for military force structure; and military force structure forms the foundation of military capability.

The first variable, national policy, sets guidelines for national actions intended to achieve our international and domestic strategy. A key point is that the responsibility for national policy rests with civilians and is inescapably intertwined with the national 2-4-6 year political and electoral processes. With each Administration, new Congress or shift in public (voting or non-voting) opinion, national policy can change. This fact makes it the most responsive variable to change.

In concrete terms the second variable, military strategy, is less responsive. Since the 1950s, the prime objective of our military strategy has been deterrence, that is, deterring conflict with the

Soviet Union and in doing so maintaining a secure environment within which the United States, friends and allies can pursue legitimate interests. In its essence that objective has transcended intervening political processes and seven Presidents, is well defined, understood and unquestionably valid. Military strategy is comfortable with that objective.

Deterrence fits with the inertia of military strategy provided by *Service grand strategy*. By that I mean, if the grand strategy inertia is not influenced by external forces, "sub-strategies" will always bound somewhere within the parameters of the Service's traditional grand strategy--continental (Army), maritime (Navy-Marine), or aerospace (Air Force). In an oversimplified manner the three traditional grand strategies can be described as follows: *Continental*--land power will be decisive through physical occupation of enemy territory. *Maritime*--sea power will be decisive by controlling critical sea lanes of communication and maritime choke points and by selective projection of power inland. *Aerospace*--airpower will be decisive by control of the air and by destruction of enemy war making potential (such as industrial bases, etc.); air support for missions is secondary.<sup>3</sup> Force structure will be subsequently fielded, with few perturbations, to support the particular Service's view of the world in line with what might be called its "chartering" strategy.

Military strategy has been (and is) slow to develop for lesser

levels of conflict, or introducing a term more in vogue, "low intensity conflict," because United States' national objectives in that area of the spectrum are political (civilian), necessarily dynamic and, as a result, not clearly defined. For those reasons the military strategist's stock answer to readiness for low intensity conflict tends to be along the lines that military capability ready for deterrence and total war has near equivalent utility for lesser conflicts.

True sometimes, not true other times. It is the "other times" that hurt.

As previously noted, the President will expect his military forces to be able to effectively apply force complementary to policy at *whatever level is required* to achieve national objectives--"other times" notwithstanding.

If strategy were to grasp low intensity conflict, corresponding adaptations in the third variable, force structure, would take years. It is the least responsive. The "system" does not allow it. Weapons systems' research, development and acquisition are long term bureaucratic and technical procedures. The planning, programming and budgeting system *holds military strategy* relatively inelastic with iterative opportunities each budget year to change or eliminate previous years' force structure programs (which might be low intensity oriented, for example).

In the above perspective only national policy that *transcends* political cycles, *endures* maybe the better thought, will have any

lasting impact on the other two variables and, thereby, on military capability. Even with external influence, history shows that military strategy and force structure will react rather than pre-empt.

The Iranian hostage rescue mission is a case in point. Could the rescue-raid strategy have worked? Of course we will never know--but policy, strategy and available forces, seemingly external to the problem, put substantial negative pressure on it. Over the period 4 November 1979 to 24 April 1980, mission planners worked very hard to overcome those obstacles, possibly even without identifying them as such, and might well have succeeded; however, the force projection problem facing them was unforgiving and had little margin for error. During their preparations they made unintentional mistakes that further decreased the margin for error, but the variables which overwhelmed the probability of success were external--the "cards dealt" to the planners. The probability of success was much less than those involved believed it was, when they went to the President, *and* never as high as it might have been.

To understand the dilemma facing those charged with rescuing the hostages one must first look at the situation, and then apply national policy, military strategy, and available military forces to it.



## **THE SITUATION**

**On 4 November 1979, Islamic militant students seized the United States Embassy in Tehran, Iran. Over 60 U.S. citizens were taken hostage. The United States Government expected the Iranian State to quickly intervene on its behalf. Instead, the Iranian Government supported the militants and joined them in demanding concessions (primarily the return of the Shah) prior to the releasing the hostages.**

**On 6 November, with the diplomatic situation unsteady, Zbigniew Brzezinski, the National Security Advisor to the President, directed the Joint Chiefs of Staff to develop a plan for a military rescue mission. The plan would be executed in the event "that some of the hostages were either put on trial and then sentenced to death or were simply murdered."<sup>4</sup>**

**On 17 November, some of the hostages, 13 blacks and women, were released; three days later, however, Ayatollah Khomeini said he would place the remaining hostages on trial for spying. On 28 November, President Carter said firmly, the Iranian Government "must recognize the gravity of the situation...and the grave consequences which will result [to it], if harm comes to any of these hostages."<sup>5</sup>**

**Through April, the diplomatic situation worsened. The United States imposed sanctions (e.g., freeze of Iranian assets, imbargo against Iranian oil) and closed the Iranian Embassy in Washington. Little leverage remained. Domestic public opinion was charged by**

daily press and television coverage (ABC Television's nightly news program *Nightline* was especially noteworthy in that regard). In mid-April, President Carter became convinced that an early release of the hostages was unlikely and that the military option would be the only chance of bringing them home in the near-term; he was briefed on the rescue plan and subsequently authorized the Joint Chiefs of Staff to execute it.<sup>6</sup>

On 24 April, the mission was launched from bases in the Middle East; within eight hours it was aborted--for technical reasons: not enough operational helicopters at the intermediate refueling site, "Desert One," to continue.<sup>7</sup> The rescue attempt had failed. As Colonel Beckwith recalled, "All the way back to Masirah, I felt lifeless....let down.... We [had] just embarrassed our great country."<sup>8</sup> The nation and its military were indeed embarrassed.

#### NATIONAL POLICY

In the years since President Kennedy's policy of Flexible Response and his new emphasis on counterinsurgency any semblance of national security policy for low intensity conflict had eroded. The Carter Administration, just as the Nixon and Ford Administrations, continued the national policy of strategic deterrence. Military capability for other kinds of conflict were of lesser priority. Flexible Response had become less flexible. By 1975 the Army even began to revamp its conventional doctrine to "fight outnumbered and win" and orient it toward Central Europe. All the Services began to look to technology to

make up general purpose force structure shortfalls.

Many say President Carter did not have a coherent foreign policy. The foreign policy setbacks of the United States during his Administration might confirm it. In the last years of his Administration, however, as the world reached around him, he seemed to recognize that world peace could not be maintained by good will alone. Accordingly he gradually began to budget resources to build up conventional military power.

If there were a void for the Iranian challenge, however, a specific national policy was *quickly* articulated. On 12 November, the President said, "It's vital to the United States and every other nation that the lives of our diplomatic personal abroad be protected....No one should underestimate the resolve of the American Government and the American people in this matter."<sup>9</sup> Sixteen days later, he said, "This Nation will never yield to blackmail,"<sup>10</sup> and in the same statement also implied that the United States would use force if necessary ("grave consequences..."). Over the six month period from November to April, the United States used up most, if not all, of its international leverage without success through various economic and diplomatic sanctions. By April only the military "extension" of foreign policy--the last resort--remained untried.

Congress and the American public typically grew impatient as the days and months passed. This time, though, sentiment uncharacteristically favored military action, even punitive military

actions, to break the stalemate. The strong domestic consensus may have provided the final "push" for the President to use military force.

### **MILITARY STRATEGY**

The Vietnam trauma that had permeated national security policy during the 1970s clearly affected the Services in their strategy and force development in the decade of the 70s. Lacking specific national direction to the contrary, the Services had reverted to what they knew best--military force structure oriented to their own particular grand strategy, i.e., maritime, continental, and aerospace for the "traditional" objectives of deterrence and preparedness for general war.

As fact-of-life of the last thirty-plus years, the general tenets of the "chartering" strategies provided the framework within which each Service organized, trained and equipped its forces. By the late 70s the Army and Air Force had fielded forces essentially organized, trained and equipped to fight the Soviet-Warsaw Pact forces on a European battlefield where the continental and aerospace grand strategies have the greatest utility.

In November 1979, the Services had limited capability in low intensity situations because of the forces they had provided themselves. Program goals and procurement decisions were in consonance with ingrained grand strategies. No one can really say, however, how much of the policy direction was really an outgrowth of the Service proponency for their grand strategies. Was policy being

established in reverse? Were programs dominating strategy? A programmer's adage, "tell me your programs and I'll tell you your policies" might have accurately described the situation.

For the Iranian problem the objective assigned by Mr Brzezinski was relatively straight forward--rescue the hostages. He placed a collateral *limit* on the operation by directed that only minimum military force could be used to insure the Soviet Union would not have an excuse to intervene.<sup>11</sup> A strategy using a swift-strike raid seemed ideally matched to the mission, but the Tehran problem was complex; not one that forces matched to any of the predominate Service grand strategies could solve alone (See Note 12 for a capsule description of the military strategy).

The Services' doctrine existing in November 1979 was consistent with their strategies. In the colloquial, the Services had concentrated on fielding elephant guns while overlooking the fly swatter (or, maybe more importantly, that an elephant gun might not have an effective "lesser-included-capability" against flies). Air Force doctrine for low intensity conflict, special air warfare, was Vietnam era (1966 and 1967) and had not been updated except to change its name to *special operations*. New Army doctrine was being developed for counterterrorist/rescue operations under the auspices of Col Beckwith and Delta Force. The capability was so new that the Delta Force had just completed its combat readiness "certification" as the JCS planning for the rescue mission began.<sup>13</sup> Navy and Marine Corps' doctrine did

not then, or now, support military operations so far inland.

Lack of existing or proven Service doctrine, from which joint doctrine could be derived, forced the task force commander to "make it up" as he went along both lengthening the time it took to attain mission readiness and certainly inducing tactics errors as well.

#### AVAILABLE MILITARY FORCES

Reacting to national security policy and grand strategy considerations, the types of forces needed to successfully execute the strategy of a swift-strike raid into Tehran were not in the inventory of the Services--either singly or collectively. While the Army (showing foresight) had read the risk and unilaterally organized, trained and equipped Delta Force for counterterrorist operations, it was a light, specialized airborne infantry that typically did not have sustainability, organic means to get into and out of distant target areas quickly, or external security capability. The Air Force did not have long range, night adverse weather capable, vertical lift aircraft, significant numbers of long range, night adverse weather capable, fixed wing tactical transports, such as, the inflight refuelable MC-130 Combat Talon aircraft or fixed wing tankers capable of clandestinely penetrating hostile airspace and refueling helicopters. The Navy, on the other hand, had heavy-lift maritime helicopters; they were capable of night visual operations, but their aircrews were not trained for long range, night low level missions.<sup>14</sup>

## THE DILEMMA

The problem that faced military planners was complex. A rescue force had to successfully get far inland to Tehran, gather 52 hostages from various locations within two compounds, individually account for and extract them with as few casualties as possible and get out of the area safely. A number of sub-variables typical to the application of military force in low intensity conflict interacted to complicate the rescue-raid strategy: threat, intelligence, leadership, "ad hoc-ness," operations security, uncertainty, geography and surprisingly the laws of physics.

The threat upon which military capability is focused during low intensity conflict may well be *the problem*. Fortunately or, maybe, unfortunately the threat during the Iranian situation was essentially constant--the situation began and continued in a geographically distant city, a hostile government, a loyal, U.S. equipped military (although its current readiness and sustainability was suspect), a visible number of militants guarding the compounds and hostages, and an uncertain (anti-U.S.?) populous in the city and countryside.

Precise intelligence on the locations of the hostages within the Embassy compound was not available. Without it, time would be lost searching for each hostage giving the militants more time to react against the hostages and rescue forces. Technical intelligence, which the CIA had come to rely upon during the Carter Administration, was inadequate; it could not look inside the many buildings and rooms of

the Embassy compound. Interestingly after the Son Tay Prisoner of War Raid some ten years earlier, then Secretary of Defense Laird lamented, as he explained why the prisoners were not there, "We have not been able to develop a camera that sees through the roofs of buildings." <sup>15</sup> *Human*, "eyes-on," intelligence was sorely needed, but not quickly available. <sup>16</sup> We should note some things cannot be replaced by technology.

The mission was personally assigned to the Chairman of the Joint Chiefs of Staff, General David Jones, USAF. This interjected high level *personal involvement* in the strategy and its means of implementation. He recognized *surprise* as the key to successful execution of the strategy and made the critical decision to direct *rigid operations security* with information on planning, strategy and tactics compartmented among a very small number of staff officers--austensibly to preclude a leak of information. [Very limited access to operational information on "behind enemy lines" missions is a traditional military and CIA method--it was also used during the planning and execution of the Son Tay Raid. Although traditional, its actual "cost-effectiveness" has been questioned many times.] The concept unnecessarily degenerated into an attempt at total secrecy and came to dominate mission planning, training, and execution--unfortunately the resulting compartmentalization eliminated broad-based review processes during mission planning.

To implement his security decision the Chairman also broke away



from established and working organizations and crisis action procedures by forming an *ad hoc* planning staff in Washington and an *ad hoc* joint task force organization (with Maj Gen James Vaught, USA, selected as its commander) both essentially reporting directly to him.<sup>17</sup> The startup efficiency of ad hoc organizations and planning procedures is never as good as existing ones.

The overriding nature of *operations security* may have caused the joint task force commander to make two critical decisions--later shown as mistakes by the Holloway Commission. He positioned less than the number of RH-53Ds he could have on the Carrier *Nimitz* (but, all he thought he needed). And he did not hold any full scale rehearsals--only rehearsing tactical segments--prior to the actual mission execution.<sup>18</sup>

The *uncertainty* of D-day added "there is no tomorrow" pressure to the preparation, i.e., execution of the mission would be a *political* not a military *decision*, so they had to be ready--could the most powerful military forces in the world have realistically said they could not go, *if* hostages were being systematically killed in front of the rest of the world? This lack of certainty about the preparation time available essentially put the task force commander into an "emergency planning" mode for over five months. He could not go "back to the drawing board" and start all over. If a tactics application proved faulty, he had to go on with the next, as an iteration of the last, refining as he went along. This lack of certainty

affected the success of the strategy by selection and interaction of less than optimum forces, variable safety margins, and nonevaluated tactics.

*Geography* was a compounding factor. Tehran was on the outer seam of unilateral United States military assault capability, remote from American controlled facilities. *Regional cooperation* in the form of launch bases became an absolute necessity to enable the rescue force to even start to the target area.<sup>19</sup> Once reaching Tehran the Embassy compound could not be easily approached because of its physical location within the metropolitan area, external visual surveillance network, high perimeter fences and in-place barricades. Vertical lift aircraft were needed for quick entry and exit, *but* the helicopter force structure was not designed for (non-stop) long range, night assault operations.

The simple application of *physics* in speed/distance-travelled relationships of slow aircraft (125-240 knots) was a challenge. Of concern was the capability of the Iranian military to defend its airspace, *if* the mission were detected along the inbound route. Iranian airspace would have to be penetrated over long distances (about 1000 miles, each way) by slow aircraft. The ability to successfully execute the strategy became dependent upon undetected ingress.

As much as any factor, *available force structure* forced the mission strategy to change. Rather than a quick, in-and-out raid, it

became a 2-night operation because of the range and speed of the aircraft. An intermediate refueling base *and* a forward staging base for launching the rescue forces were required. Mission execution, that is, training, timing, coordination, marshalling, became more difficult. Risk increased immeasurably, just a believer in Clausewitz' "Friction in War" might have expected. Although the task force always tried to be ready for a quick launch, the first realistic capability to successfully accomplish the mission, in a deliberate manner, was reached only at the end of March.<sup>20</sup>

#### THE LESSONS

Immediate national policy and the applied strategy *objectives* were to regain United States' prestige through a decisive military move to free the hostages. Tangible alternatives available to the President and acceptable to the public were slowly used up during the November-April period. In face of domestic dissatisfaction with the outward impotence of the Government, military force seemed to be the "next step."

Unfortunately because of long term national policy, actually the lack thereof for low intensity warfare, military strategy (consistent with ever-present grand strategies) and resulting military forces (strategy-matched), the United States did not have inbeing capability to successfully execute the mission in November 1979. In April 1980, there was a capability, but only after ingenious "adaption and modification" of a patchwork force.

A mix of typical characteristics of military capability for low intensity conflict and unintentional, but critical human misjudgments (they have been adequately discussed and analyzed with the help of 20/20 hindsight<sup>21</sup>), was poured into the mold formed by policy, strategy and available force structure. The result was a military response capability some say was not really capable.

It is doubtful the President understood that.

#### THE FUTURE

As noted above, almost any assessment of the potential for future conflict indicates low intensity is the most likely. The normally unstated assumption in those assessments is that *deterrence remains credible*. So deterrence cannot be abandoned, nor can readiness for general war. The point is that a military capability across the spectrum is needed, in fact, expected--not one skewed one way or the other. Remember the elephant gun and the fly swatter analogy used earlier--in the world of the future the United States will need both. The traditional military way of force structuring to the worst case (general war) and assuming that force structure can be applied with equivalent effectiveness at lesser levels is flawed. Korea, the Bay of Pigs, Vietnam, the Pueblo incident, the Son Tay Prisoner of War raid, the Mayaguez incident, the Iranian Hostage Rescue Mission and Grenada attest to that.

What is the prognosis for the future? There are mixed signals.

The Reagan Administration came into office in 1980 emphasizing

military preparedness for low intensity conflict and counterterrorism. With President Reagan's election to a second term, the policy should remain in effect at least into 1989, when a new President's term will begin--some nine years. Is that long enough to become an *enduring* policy, to be institutionalized into military strategic thought? The answer is imprecise, "time will tell." If it occurs, we should see strong force structure improvements for low intensity conflict in the 1990s. Remember how long it takes to field forces within the planning, programming and budgeting system.

The JCS Military Posture Statement for Fiscal Year 1985 reports that each of the Services have initiatives to increase the size and capability their special warfare/special operations forces--their core low intensity forces. It also reports that the JCS established the Joint Special Operations Agency (JSOA) on 1 January 1984, to improve the management and increase the responsiveness of special operations forces to the requirements of the unified commands. In concept the JSOA will provide a mechanism to improve cross-Service research and development, joint training and doctrine, and strategic planning.<sup>22</sup> Even with those comments, the thrust of the document, however, remains heavily weighted toward the worst case--military capability for deterrence and general war.

Statistics recently presented by Mr. Neil C. Livingstone in the December issue of Defense and Foreign Affairs depict a less than encouraging picture. He notes that the proposed Fiscal Year 1985

Defense Budget, in aggregate, only requests 25 cents out of every one hundred dollars (.25 percent) for special operations forces--a drop of one cent from the previous year's budget request. He also notes that "less than one percent of active duty military personnel are trained and equipped to fight the kind of warfare which predominates in the contemporary world."<sup>23</sup> Furthermore he adds that the lack of training and experience is even more pronounced within the military's senior leadership, "...only four Air Force generals, 10 Army generals and no Navy admirals have any SOF/UW [special operations/unconventional warfare] experience, a figure hardly indicative of a major commitment to meeting the combat realities of the modern world."<sup>24</sup>

Yet, for the first time, all three Military Departments have special operations forces master plans. They were developed at the direction of the Deputy Secretary of Defense and their (DoD) intended purpose is to provide time-phased plans for improving the Services' inbeing capability for low intensity conflict. On the negative side significant questions of whether these master *plans* will be programatically realized --especially the Air Force's-- have been raised.<sup>25</sup>

And what about Airpower? How will it be matched to low intensity conflict?

In Air Force Manual 1-1 (March 1984), the Air Force's manual of basic aerospace doctrine, there are clear acknowledgments that special operations is a primary mission of the Air Force (not a

peripheral one as many would seem to believe) and that " *Virtually all aerospace forces* [emphasis mine] have the potential for employment in special operations. Additionally, the Air Force organizes, trains, and equips unique units to conduct special operations as their primary mission...."<sup>26</sup> The manual provides doctrinal acknowledgment that the Air Force understands it provides forces for the full spectrum of conflict, and primary mission (core) forces for low intensity as well as high intensity.

A year earlier, 1 March 1983, Air Force special operations forces transferred from Tactical Air Command to Military Airlift Command. The impetus behind the organizational realignment was to enhance capability through efficiencies gained by a single command with world-wide responsibilities (Military Airlift Command) acting as the Air Force focal point for budgeting, manning, training, and equipping special operations and combat rescue (a complementary mission area). Military Airlift Command was *not* designated the coordinating authority for planning and force development/matching for low intensity conflict. No Air Force Major Air Command had that integrating responsibility until the Chief of Staff and the Secretary of the Air Force both approved the Air Force Special Operations Forces Master Plan in April of 1984.<sup>27</sup> Somewhat belatedly the Master Plan designated Military Airlift Command, but the effectiveness of that designation is still to be determined.

In May 1984, the Air Force and Army Chiefs of Staff agreed to

transfer, as soon as practical, the responsibility for the "special operations rotary wing air mission" to the Army. Unfortunately this transfer is consistent with a *fallback* to "basics"--see Note 3--because the helicopter is not a weapons system capable of the Air Force's chartering aerospace grand strategy. Remembering long range, adverse weather capable helicopters were the Achilles Heel of the Iranian Hostage Rescue Mission, the Son Tay Prisoner War Mission, the Mayaguez, and probably any future mission, transfer of the responsibility to the Army, whose basic aviation concepts are short range and visual, is being questioned by Congress and many others outside the Department of Defense.<sup>28</sup>

In November 1984 a Headquarters Air Force reorganization eliminated special operations as an independent functional area within the Directorate of Plans--the Director of Plans has the responsibility for long range Air Force policy, planning and force development. The Airlift Forces Division as part of the Plans Directorate now has the responsibility for Air Force special operations plans, policy and force structure development [Note: there is difference between "special operations" and designated special operations "forces", i.e., special operations squadrons in the Air Force; special operations forces do not always conduct special operations]. And no division within the Directorate seems to have the direct responsibility for planning and developing capability for low intensity conflict. Such capability within the Air Force will require



cross-functional forces from tactical commands, Strategic Air Command, support commands, as well as Military Airlift Command. To attain effective military capability low intensity conflict and special operations cannot be thought of as only an airlift functions.

As a wiseman once said, the more things change the more they seem to stay the same.

#### KEYS FOR THE FUTURE

The key of the sequential basis of military capability is national policy. If it is clear, understood and enduring, everything can follow easily. The current Reagan policy of readiness for low intensity conflict can be such policy. The challenge for the national leadership will be to articulate the policy in firm, but finer and finer terms to those who must translate them into strategy and programs. If that is done, then the resulting military grand strategy will be usable in the concrete environment of *the world as it is and as it is expected to be*, not as the Services would be most comfortable with. The strategy will then serve the nation well.

Service leadership is the key to changing the strategy-force structure inelasticity. The senior leadership decide and refine grand strategy; they decide the resource allocations to match the strategy. During the preceding years they, by and large, have *looked past* the risk of low intensity conflict. For many and varied reasons they have opted for a force structure shaped for the worst case situation--expecting *lesser included capability* from those same

forces in lower intensity and limited military operations.

Lesser included capability was not there for the joint task force commander for the Iranian Hostage Rescue mission. He had to literally build his task force without the institutional support of strategy and force structure. Clearly the available force structure of November 1979 did not have an effective lesser included capability. Future opportunities to reinforce or regain national prestige may not be any different than the Iranian dilemma--irrational acts, distant from the United States, with military capability required on short-notice.

Hopefully national policy for low intensity conflict will be clear, well understood and enduring. If it is not, the ability to apply military power *tomorrow* will depend upon the *foresight* and *flexibility* of Service leadership *today* in their resource allocations. If they fall short, military capability will depend on the "software" (flexibility and ingenuity) of the Service commanders, planners and participants to improvise with the available inventory *hardware*. Unfortunately military capability that comes from this only level is the hardest to quantify and use.

What that all means is that the keys to future military capability for low intensity conflict begin with *awareness*. But, that awareness must be at all levels and all levels must strive to translate the awareness into action.

--DCS

## NOTES

1. Conflict within the lower level spectrum has no universal definition. The general intent of various attempts at definition is that *this form of conflict does not include protracted engagement of opposing forces.* My operational definition is: Non-nuclear conflict ranging from normal diplomacy through terrorism and local crises to insurgencies and revolutions. Responses are often in conjunction with host nations and third countries, and require tailored social, economic, political, psychological, and/or limited military actions. There are many others--all generally with the same intent. An official JCS definition is being staffed.

2. Jeffrey Record, "Why Our High-Priced Military Can't Win Battles," The Washington Post, January 29, 1984, p. D-1, D-4.

3. John M. Collins, Grand Strategy: Principles and Practices (Annapolis: U.S. Naval Institute, 1973), pp. 14-21. As a further point of reference, Major General Perry M. Smith, USAF, then Director of Plans, HQ USAF, posed a "vertical versus horizontal expansion" question to his directorate in the Fall 1982. Its essence: In times of constant or receding budgets (zero sum) can the Air Force effectively handle missions that are not central to its existence (horizontal) without limiting its capability to perform the central missions (vertical)? Should not the horizontal mission areas be terminated? He further postulated that rotary wing support for special operations was "horizontal" to the Air Force mission and the monies saved by eliminating those helicopters could be recycled into core Air Force mission areas--Air superiority and air interdiction. Whether the question was posed from a devil's advocate perspective is not known, but it certainly lines with the aerospace grand strategy view of the world.

4. Zbigniew Brzezinski, "The Failed Mission: The Inside Account of the Attempt to Free the Hostages in Iran," The New York Times Magazine, April 18, 1982, p. 28.

5. "Presidential Press Conference, November 28, 1979," Historic Documents of 1979, ( Washington: Congressional Quarterly, Inc., 1980), p. 876.

6. Brzezinski, p. 64-65.

7. During repositioning for refueling prior to the flight back to the Carrier *Nimitz*, one of the five operational helicopters collided with a ground-tanker configured EC-130 aircraft. Eight crew members died, and five other members of the rescue force were injured. See Note 12 below.

8. Charlie A. Beckwith and Donald Knox, Delta Force, (New York: Harcourt Brace Jovanovich, 1983), p. 281.

9. "Presidential News Conference, November 12, 1979," Historic Documents of 1979, (Washington: Congressional Quarterly, Inc., 1980), p. 874.

10. "Presidential News Conference, November 28, 1979," loc. cit., p. 876.

11. Brzezinski, p. 28.

12. By the time the plan was executed it had evolved into a two night operation. Seven (six primary and one backup) helicopters would rendezvous with six C-130 aircraft carrying fuel and the rescue and security forces during the first night. The helicopters would refuel, pickup the rescue force and continue to a second site near Tehran (by pre-mission decision, six operational H-53 helicopters would be necessary to continue the mission), where the team and the helicopters would conceal themselves for all of the next day. The assault on the Embassy and Foreign Ministry Building would take place during the second night. After the rescue, everyone would move to a nearby soccer stadium. From there, the rescuers and the rescued would be moved by the helicopters to an airstrip a short distance outside Tehran. All would be flown out by transport aircraft to a third country. The mission would be completed by dawn of the third day. (Brzezinski, Beckwith and Knox, Newsweek and The

Washington Post)

13. Beckwith and Knox, p. 181.

14. Somewhat unexplainably Marine pilots were finally selected to fly Navy RH-53D helicopters. The Air Force provided three inflight refuelable EC-130 ABCCC aircraft minus the C<sup>3</sup> capsules to augment available MC-130 aircraft--but these aircraft did not have terrain following/terrain avoidance radar or internal ECM.

15. Benjamin F. Schemmer, The Raid, (New York: Harper and Row, 1976), p. 233.

16. This intelligence about the internal disposition of the hostages was finally provided by an unlikely source in early April when the Embassy cook was released. Apparently the mission would have been launched without it.

17. "The Holloway Commission Report on the Iranian Hostage Rescue Mission," Historic Documents of 1980, (Washington: Congressional Quarterly, Inc., 1981).

18. Holloway Commission Report, loc. cit., p. 360.

19. Egypt and Oman finally agreed to provide low visibility bases; launches to Desert One were made from both countries and the Carrier *Nimitz*.

20. Holloway Commission Report, loc. cit., p. 357.

21. Robert L. Earl in the February 1983 issue of Proceedings has an excellent article dealing with the application of the Principles of War and the rescue mission. Of course the Holloway Commission Report provides the benchmark assessment of the strategy's strengths and weaknesses.

22. United States Military Posture, FY 85, (Washington: The Organization of the Joint Chiefs of Staff, 1984), p. 65.

23. Neil C. Livingstone, "Mastering the Low Frontier of Conflict," Defense and Foreign Affairs, December 1984, p. 10.

24. Livingstone, p. 10.

25. Deborah G. Meyer, "House Panel Urges DoD to Rethink 'Hasty' SOF Initiative," Armed Forces Journal International, November 1984, pp. 28-30.

26. Air Force Manual 1-1, "Basic Aerospace Doctrine of the United States Air Force," 16 March 1984, p. 3-4.

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28. Deborah G. Meyer, "Taft Overrules Chiefs on Transfer of Special Ops Rotary-Wing Mission," Armed Forces Journal International, January 1985, pp. 14-18.

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EMERGING TECHNOLOGY IN UNMANNED VEHICLE SYSTEMS  
FOR USE IN LIMITED WARS

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### Biographical Sketch

Captain Kenneth Steven Bauman was born in Cleveland, Ohio on September 24, 1951. He graduated from Case Western Reserve University in 1973 with a Bachelor of Science in Engineering (Major field: Fluid and Thermal Science). He enlisted in the Air Force, and served as a weather specialist at Fort Lee AFS VA and Wheeler AFB HI.

He was commissioned in 1976 after completing OTS and was assigned to the Deputy for Engineering of the Aeronautical Systems at Wright-Patterson AFB OH. While at ASD he applied hardware systems to Air Force aircraft (both in development and production), C-130 visual simulator, and the space shuttle. He conducted research in conjunction with the Flight Dynamics Laboratory on fasteners and with the Materials Laboratory on stress corrosion. He was co-located to the Strategic Systems SPO, and became the lead systems integrator for the B-52/Cruise Missile integration.

Captain Bauman was then assigned to the Aero Propulsion Laboratory of the Air Force Wright Aeronautical Laboratories. He managed R&D projects in specialized engine technology, including various component development projects for small engines and the recuperated engine study for the 1990's Cruise Missile. He also acted as a consultant to the Deputy for Propulsion at ASD and for the Joint Cruise Missiles Project Office.

His next assignment was with the Medium Range Air-to-Surface Missile Program of the JCMPO. His primary duty was as missile/aircraft integrator of the land attack and anti-ship versions of MRASM with the B-52, A-6, and F-16 aircraft.

Captain Bauman is presently assigned to Headquarters Air Force Systems Command's Strategic Aircraft and Cruise Missiles Division. He oversees work on the B-52 developments, Common Strategic Rotary Launcher, Air Launched Cruise Missile, Short Range Attack Missile, Strategic Conventional Standoff Capability, and other programs.

## EMERGING TECHNOLOGY IN UNMANNED VEHICLE SYSTEMS FOR USE IN LIMITED WARS

### 1. INTRODUCTION

Unmanned vehicles hold the promise of significantly altering the way airpower is employed. Manned aircraft will then be freed from some of the missions which require them to penetrate the adversary's defenses in order to release weapons or to gather intelligence, and to return through those same defenses to friendly airspace. These aircraft could then be employed to locate and attack imprecisely located ground targets, fly air-to-air combat roles, or traditional air-to-ground roles after the defenses have been weakened. The synergy resulting from using the right combinations of manned and unmanned vehicles can increase target coverage, decrease aircraft attrition, and allow more missions to be performed with the limited number of aircraft and crews. Using unmanned vehicles could be that force multiplier which allows the quicker resolution of conventional conflicts; in particular theaters, the increased conventional capability would raise the threshold for resorting to tactical nuclear weapons.

Several of the world's defense forces employ limited numbers of the present generation unmanned vehicles, and some are "combat proven." The Israelis successfully used reconnaissance drones in Lebanon; the British effectively used Sea Skua in the Falklands; and the Argentines and Iraqis have damaged ships using French-made Exocet missiles. Other missions include attacks on tanks, bridges, dams, fortified structures, and storage facilities. The technology used in the present day vehicles allows many countries the ability to manufacture subsystems or complete vehicles, and many more countries can afford to purchase them. The standoff ranges of such systems vary from a few kilometers to tens of miles.

Using emerging technology in unmanned vehicles will allow increases in standoff range with as good or better accuracy than current systems. Increased standoff will allow aircraft increased flexibility in responding to the threat. This paper will examine current and emerging technology in

targeting, propulsion, enroute and terminal guidance, and munitions for unmanned vehicles suitable for use in limited wars. To keep the paper unclassified, systems and technologies will be discussed in general terms. Certain areas, such as intelligence gathering, passive stealth and electronic warfare, will not be covered. In addition, only selected systems from the Free World will be discussed. Additional information is available from specialized sources, such as the Weapons File published by AFSC's Armament Division, and the people of SAC/XP, TAC/DR, and AFSC.

## 2. TARGETING

Before a weapon can be effectively employed, the target must be located and the location relayed to the user of the weapon. Some targets such as dams, bridges, power plants, airfields, and harbors can be located far in advance so missions can be planned and then stored until needed. Other targets such as columns of armored vehicles or task forces of ships could be located by "third parties" (such as submarines and airborne surveillance) from a safe distance. The location, speed, direction, and time of information gathering could be relayed prior to aircraft mission launch with updates from the third party or by the aircraft carrying the weapons. So called "real time" targeting of anti-aircraft radar, command & control vans, tanks, ships, etc. could come from some of the third parties mentioned or Joint STARS radar, PLSS emitter locators, reconnaissance aircraft or drones, or ships/troops engaging the enemy. The high resolution radar for the strategic conventional standoff capability would allow the B-52G to locate targets from significant standoff distance.

Today's aircraft carrying unmanned vehicles usually acquire the target by radar, infrared or visual (aided or unaided) means before launching the weapon. Certain weapons, once launched, acquire the target themselves. They will be further discussed in the terminal guidance section. Other weapons are guided to the target either by reflected energy from a target designator (usually a laser such as used by LANTIRN and ATLIS) or by a data link. The Walleye and GBU-15 use a conventional data link, while the Hypervelocity missile uses an aft-looking laser receiver. Reconnaissance drones launched

from DC-130s were guided by a microwave system. Target designators and data links have a maximum useful range which limits the standoff range of the launch platform; however, they can be highly accurate. Visual targeting is limited in performance under low light levels; infrared can be limited by rain, snow, fog, or decoys. The mission planner should trade off increased aircraft vulnerability against increased probability of target kill when choosing guided or autonomous weapons to employ.

### 3. PROPULSION

The propulsion system provides the motive force to powered vehicles. The range and speed of the unmanned vehicle are highly dependent on this portion of the vehicle system.

Generally, there are many ways to get additional range from an air-launched system. Some of them are:

- a) modify air vehicle structure;
- b) launch from a higher altitude;
- c) launch at higher speed;
- d) use more fuel;
- e) use a more energetic fuel;
- f) increase the efficiency of the propulsion system;
- g) change to a different class of propulsion system.

The air vehicle structure contributes to the weight, drag, and lift of the vehicle. By using high strength, lower weight alloys or even composites in the load bearing sections, vehicle weight can be reduced. Using composites, fiberglass or plastics for the vehicle skin not only reduces weight, but can be beneficial in other areas as well. Changing the shape of the air vehicle thru aerodynamic smoothing techniques can reduce drag; other shape changes can increase lift. With increased computational speed in decreased sizes and miniaturized actuators, the techniques of aeroelastic tailoring may someday be applied to unmanned vehicles.

The second and third ways are dependent on the aircraft, the unmanned

vehicle, the defenses, and the chosen tactics. Obviously, if the launch aircraft is at the limits of its operational envelope, a higher altitude or speed launch is not feasible. If targeting requires a designator or data link, the higher altitude resulting in increased distance to target may render such systems useless. The more common reason for not increasing altitude is the desire to be below the defense's radar horizon, thereby maintaining an element of surprise, or at least delaying the onset of becoming a target in turn. Reasons for not launching at a high speed include the unmanned vehicle having an aerodynamic heating limit, the airplane having a velocity limit to open its bomb bay, or the launch aerodynamics at higher speeds places the aircraft at risk. The launch altitude and speed should always be considered by operational planners.

Another seemingly simple solution to getting increased range is increasing the fuel load of the system. At best, the increased fuel increases the vehicle's weight; one needs to examine if the vehicle structure and the aircraft store station can take the increase in load, especially in the maneuvering environment. If a fuel tank or solid rocket motor must increase in size to hold the additional fuel, it can affect vehicle weight, balance and drag, necessitate structural changes, and possibly limit internal and external carriage options on certain aircraft.

For years, fuel experts have been finding ways to put more energy into every pound of fuel. In gasoline powered vehicles, raising the octane and including certain additives allows more energy per gallon. The same principles hold true for rocket and jet fuels. Changing the chemical constituents or adding materials such as aluminum or boron can make solid rocket fuels more energetic. Specially synthesized hydrocarbon fuels such as JP-9, JP-10, and RJ-4 (developed for cruise missiles and ramjets) can increase the jet-powered vehicle's range 15 percent over JP-4 or JP-5. And the future holds the promise of further range increase when using RJ-6, carbon slurry and boron slurry as fuels. Adjustment to the engine's combustion chambers and fuel distribution system may be required to handle the slurries, but the range increase is significant.

An alternate way to get "more miles per gallon" is to increase the efficiency of a given propulsion system. For example, the J-402 turbojet was developed in the 1960s and powers the Harpoon anti-ship missile. By improving certain components, the J-402 variant that could be used in the MQM-107 target drone has approximately 16 percent greater thrust. A proposal to improve the F-107 turbofan which powers the ALCM and TOMAHAWK cruise missiles could result in 22 percent greater thrust. Use of exotic materials such as single crystal alloys, directionally solidified eutectic alloys, ceramics, and carbon-carbon composites can further increase the efficiency of conventional engines. Increasing engine efficiency thru improved components or exotic materials does increase the cost.

Instead of evolutionary changes to existing engines, some unconventional designs also offer promise. These include the following: a) the integral rocket ramjet which uses the fuel-rich exhaust of the solid propellant rocket portion as the fuel for the ramjet; b) the air turboramjet which performs like a turbojet at subsonic speed and like a ramjet at supersonic and hypersonic speeds; c) restartable pulse rocket motors that can coast between rocket pulses to increase range (estimated 35-50%); d) the compound cycle turbofan which replaces the constant pressure combustor with a diesel which is geared to the engine shafting; e) the "eccentric" turbine where the high pressure spool is mounted off the engine centerline which allows larger passage heights and decreased losses; and f) the recuperated engine which increases the combustor inlet temperature, allowing the same temperature rise to be accomplished while burning less fuel. One or more of these technologies may power the unmanned vehicles of the late 1990s.

Lastly, the type of propulsion system is the greatest determiner of vehicle range. Generally, range increases (and vehicle speed decreases) when going from rocket (e.g., Maverick) to ramjet (e.g., ANS antiship missile), to turbojet (e.g., Harpoon), to turbofan (e.g., ALCM). Some unmanned vehicles, such as the Aquila reconnaissance drone, the CL-227 "Flying Peanut"; Locust harassment drone and the PAVE TIGER defense suppression mini-drone use propellers. The APACHE/CWS and GBU-15 are glide vehicles that can be fitted with rockets for increased range. Augmentors (afterburners) are under

development to give missile size turbojet and turbofan powered vehicles increased speeds to defeat point defenses along the flight path or in the terminal area. Some of the unconventional designs discussed in the previous paragraph break the rules by not fitting into the above neat categories. The mission requirements should be the driver when choosing the appropriate propulsion system.

#### 4. ENROUTE GUIDANCE

Some weapons rely on inertial guidance all the way from launch to target, some have one or more guidance updates, and (as discussed in the targeting section) some are externally guided through a data link or reflected energy of a target designator. Methods of inertial guidance and guidance update vary, and some emerging technologies can have a profound effect on weapon guidance.

Until recently, spinning mass systems were the heart of any inertial guidance system. Such systems are accurate, can survive short power interrupts without significant degradation, and are low in cost. For even lower cost, the Air Force contracted for development of LCIGS (Low Cost Inertial Guidance System) for tactical missiles. The drawbacks of the spinning mass systems are their warm-up time, power consumption, and dormant reliability.

Insertion of newer technology resulted in replacing the spinning mass with moving light. Missile size ring laser "gyros" (RLGs) have demonstrated the performance required by a tactical cruise missile concept without the drawbacks of the spinning mass systems. Improvements to current RLGs include integration of all the axes into one sensor block and fault tolerant electronics. Next application of moving light will be fiber optic "gyros," with optical path lengths long enough to be highly accurate without large physical size.

To fine tune an inertial system, Kalman filtering techniques are used with guidance updates. For systems with ballistic trajectories, a single



midcourse guidance update from a star tracker could be used. Longer range cruise missiles such as ALCM and GLCM compare radar altimeter readings with stored digital radar maps of selected areas for terrain correlation (TERCOM) updates. Conventional land attack SLCM would augment TERCOM with optical scene matching (called DSMAC) for even greater accuracy. With increased memory capacity of magnetic bubble memory and increased processing speed due to VHSIC, it may be possible to store digital maps and supply enroute guidance to the weapon with downward looking radar, laser, visual or infrared systems.

Another possibility for guidance update or stand alone guidance is a missile size Global Positioning System (GPS) receiver, and such a system is already in development. Processed GPS data would supply precise location and highly accurate time and velocity information to the vehicle. If the GPS coordinates of the target are also known, the reconnaissance drone or weapon could be extremely accurate. Even if the target location is not precise, GPS can decrease guidance error by accurate initialization when the unmanned vehicle is prepared for launch.

Inertial and enroute guidance will allow the vehicle to fly to a predetermined envelope in "four space" (three spatial dimensions plus time). Depending on the mission, this may be all that is needed for activating intelligence gathering equipment, dispensing submunitions, or attacking a precisely located fixed target. Other scenarios may require a form of terminal guidance to complete the mission.

## 5. TERMINAL GUIDANCE

The current generation of unmanned vehicles uses a variety of terminal guidance mechanizations, with some used in conjunction with target designators or data links. Emerging technologies allow not only for the refinement of current techniques but the application of new techniques.

Target designator and data links were discussed briefly in the targeting section of this paper. Target designators aim radio frequency, microwave, or

laser energy at the target while the weapon "homes" on the reflected energy. Three obvious limitations are that someone must be close enough to designate the target, the target must be a fairly good reflector, and the weapon must approach the target from a restricted portion of the envelope and make only minor trajectory excursions. The target designator and the weapon are vulnerable, but certain targets may not have the defensive capability to exploit these vulnerabilities.

Airborne data links can be used to guide the missile with the operator using either the aircraft targeting sensors or the on-board missile sensors. In the first case, the aircraft keeps track of the location, velocity, and computed intercept of the weapon and target, then relays corrections to the missile. The drawback here is the aircraft must keep the target in sight, thereby increasing the aircraft's exposure to the target's defenses. Advances in sensor technology such as the high resolution radar will allow additional standoff range to the platform. By using the missile's sensors (usually television or infrared) instead of those of the launch platform, the aircraft is able to perform evasive maneuvers or even start egressing while still viewing the target. Through the use of switching technology and separate command channels, the operator is able to guide multiple weapons to the same or different targets.

Other terminal guidance systems require a measure of "cooperation" from the target. Synthetic aperture radars use the speed of the radar platform as an aid to acquire and track the target's reflected radar energy. Infrared seekers (such as used in IIR Maverick) use the thermal difference between the target and its surrounding. Radiation detectors (used on SHRIKE, HARM, and ALARM) and home-on-jam seekers use the target's own radar and radio frequency emissions to locate it. Advances in phased array antennae, infrared seekers, solid state microwave and radio frequency devices, optical processing, and faster computers will increase the accuracy and perhaps the acquisition range of these systems.

Anti-ship missiles such as Harpoon, Exocet, Sea Eagle, and Kormoran use active radar seekers to locate and track targets. The active seeker

increases the missile's vulnerability, but it also allows target acquisition from significant range. Advances in phased array antennae, optical processing, solid state devices, computers and radar correlators could improve their effectiveness.

Other technologies such as millimeter wave seekers and laser "radar" can be combined with artificial intelligence techniques to recognize and attack only certain targets, and even aim for particular portions of the target. The laser could gather enough information to make a three dimensional representation of the object under study. With increasing information and computational speed, the processor could rapidly progress through the following target recognition and classification stages as an example:

- a) Object is a surface ship (not an island, oil rig, or ocean wave);
- b) Object is a warship (not an ocean liner, oil tanker, container ship, yacht, or fishing trawler);
- c) Object is an aircraft carrier (not a battleship, cruiser, destroyer, or picket);
- d) Object is of the blank class.

This should alert the missile that the object is a potential target, but with many US, UK, and French ships in navies of other countries, this may not suffice. However, this could be combined with reports of ship movements or electronic support measures to give a good indication of the country of registration or even the hull number. By then, the weapon should be able to decide if the target is an adversary to be attacked.

Lest you think every weapon relies on one seeker in an "all or nothing" game, certain missiles use a combination of seekers to detect and track targets; some externally guided missiles also have an autonomous seeking capability.

## 6. MUNITIONS

This section is entitled "munitions" rather than "payloads" because intelligence gathering payloads (imagery, electronic emissions, weather

information, etc.) and any other non-munition payload will not be discussed. Restrictions even apply to the munitions discussion since many of the details are classified.

Munitions for unmanned vehicles may be placed into two classes: unitary and submunition. Effects of unitary warheads carried by unmanned vehicles are similar to those of bombs and artillery shells, so they will be dealt with only briefly.

Unitary warheads are employed effectively against ships, armored vehicles, hardened structures, bridges, dams, and other targets where moderately large blasts are desired. Warheads come in a variety of sizes from approximately 20 lbs (e.g., Hellfire) to 2,000 lbs (e.g., AGM-130); some have special features such as shape charges, self-forging fragments, and armor piercing protection. The Hypervelocity missile does not use explosive, but relies on the dissipation of the kinetic energy of the penetrator to cause the damage.

Improvements in explosive compositions, special features, propulsion and guidance accuracy will allow smaller warheads or penetrators to inflict damage equal to current ones. The less the mass of the payload, the greater can be the range of the vehicle. Or, in a different trade-off, smaller payloads can be carried the same distance by smaller vehicles, possibly allowing the aircraft to carry more weapons, thereby covering more targets.

Advances in explosives and electronics have led to the development of families of submunitions able to perform a variety of missions. Submunitions may be employed from dispensers mounted on aircraft (such as the MW-1/Tornado combination), to short range unmanned vehicles (such as Low Altitude Dispenser and APACHE/CWS) to the 250 mile range tactical cruise missile when such systems or their equivalent are fielded. Advances in micro electronics and dispensing systems even allow the choice of dispensing pattern which may be important for airfield attack or other missions. The range, payload, pattern, and defenses should be considered when selecting the delivery vehicle.

Submunitions in the inventory and in development are usually designed to be effective against specific target classes. Some examples:

- a) Airfield runway attack - BKEP, STABO, and SG357 of the JP-233 system;
- b) Shelters - hardened target munitions;
- c) Armor - KB44 and SADARM;
- d) Vehicles - bomblet, APAM, and MUSA.

In addition to specialized submunitions, there are "combined effects" munitions such as the CEB which contain shaped charge, self forging fragments and incendiary into one submunition package. Combined effects munitions may be employed to attack armor and vehicles when in mass areas; material, warehouses, and ships in harbor; POL and munition storage areas; radar sites; or airfields with parked aircraft, control facilities, maintenance areas, and POL storage. CEBs employed against ships at sea could result in a "firepower kill" limiting the ship's usefulness for its war-fighting mission.

Mines are another set of submunitions that can be carried by unmanned vehicles. Advances in sensing, fuzing, and explosives have given rise to anti-armor mines (such as MIFF and GATOR), airfield denial mines (such as HB876 and MUSPA) and anti-personnel mines. Mines may be used separately or in combination with other submunitions. Aerial minelaying at a choke point could slow down a subsequent armor advance, or channel it to an area where it could be more easily thwarted. Airfield denial mines could be employed in conjunction with runway attack submunitions to slow the repair of the damaged runway.

The mission planner of the future could have enormous flexibility in choosing the weapons and munitions/submunitions for a given scenario. Many of the dispensing systems can accommodate several submunitions, and multiple weapons could be employed at a single target or area. The job may become more complex, but the planner should have greater confidence in the results.

## 7. CONCLUSION

The unmanned vehicles and emerging technologies present quite an arsenal from which to draw in a possible future limited war. Three challenges:

making the technology work, producing the vehicles at an affordable cost, and formulating the strategy and tactics to effectively employ unmanned reconnaissance and weapon delivery systems.

The mission planners should view unmanned vehicles as additional assets to cover more targets and decrease the exposure of manned vehicles to hostile defenses. This will result in decreased attrition of manned systems and free fighter/attack aircraft for air-to-air combat, close air support, and attack of imprecisely located targets. The employment of the proper combinations of manned and unmanned vehicles can be a very potent force multiplier.

These weapons could be launched from aircraft of other commands, services, or even nations and add to our combat effectiveness. In July 1984, the West German Minister of Defense, Manfred Woerner, met with our Secretary of Defense, Caspar Weinberger, to pledge the FRG's commitment to research, development, and procurement of smart standoff weapons. France and the UK are also very active in this area. Joint ventures such as Long Range Standoff Missile (LRSOM) are under study.

In a speech on 19 Oct 84, Assistant Secretary of the Air Force (MRA&I) Tidal McCoy said:

"... targeting data coupled with weapon guidance capability should allow NATO to achieve the necessary kills with their new family of 'smart' munitions, thus raising the threshold of a resort to tactical nuclear weapons."

Unmanned vehicles are here, and smarter ones are coming. It behooves us to learn how to effectively employ them to quickly resolve conflicts.

LOW-INTENSITY CONFLICT AND MODERN TECHNOLOGY  
LIGHT AIRCRAFT TECHNOLOGY FOR SMALL WARS

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This paper was presented at the 1984 workshop on Low-Intensity Conflict and Modern Technology and will be published by AU/CADRE as a chapter in a forthcoming book by the same title. It is provided to the Air War College for presentation at the 1985 Airpower Symposium.

The views and conclusions expressed in this paper are those of the author and do not reflect the official policy or position of the Department of Defense or the United States Government.

## LIGHT AIRCRAFT TECHNOLOGY FOR SMALL WARS

This chapter advances the argument for developing and applying light aircraft technology in limited-intensity conflict. Specifically, it proposes using modern design formulas and industrial manufacturing techniques to produce a light armed surveillance aircraft (LASA) for conflicts below the level of general war, a level of military engagement known hereafter as "small wars."

The proposal is limited to a single aircraft type. This is done for four reasons: (1) There is probably nothing in the light aircraft category more important to the small war tactician and battlefield commander than an inexpensive, uncomplicated, and rugged armed surveillance platform designed specifically for sustained counter guerrilla operations from remote, forward locations. (2) Numerous small wars being fought by allies of the United States in many parts of the world have created a need for precisely this type of weapon system. (3) The large number of light armed surveillance aircraft required to satisfy immediate global needs would probably be available only through mass production of a single, standard airframe. (4) Such a weapon system is not being produced in this country or in any country friendly to the United States.

Although the light aircraft category includes many types and varying degrees of capability, a so-called family of aircraft is not proposed, or even discussed, in this chapter. Certainly, one might develop specific requirements for a variety of light aircraft extending all the way from \$10,000 wire-braced "rag wings" weighing 300 pounds, to million-dollar light armed utility short take-off and land (LAUSTOL) gunships with 20-mm side-firing cannons. Designing and building



a complete inventory of aircraft types to suit such a broad range of requirements and capabilities is not, however, realistic. Such an effort would go far beyond what is possible or even necessary in meeting the immediate, general needs of nations involved in small war.

Applying modern light aircraft technology in limited-intensity conflict must begin with understanding that almost every nation presently engaged, or likely to become engaged, at that level of combat is a third world country with extremely limited financial and technical capabilities. The application of light aircraft technology to small wars must be aimed at developing an aircraft weapon system that is cheap enough to give away (if necessary) and simple enough to be maintained within the financial and technical resources of a developing nation.

An inexpensive and uncomplicated light aircraft represents a radical departure from the general trend in weapons development in the United States and other industrialized countries. Radical or not, such an aircraft has advantages in cost and performance that far exceed anything available through the present inventory of the United States Air Force or through the Military Assistance Program (MAP). The objective of this chapter is to indicate as clearly as possible how and why light aircraft technology should be used to enhance the combat capabilities of MAP countries, and at the same time, to show that this technology has great application to the mission of the US armed forces should they become directly engaged in limited-intensity conflict.

Finally, the proposal to produce a light armed surveillance aircraft through modern technology aims precisely at designing and building a brand new military weapon system. The proposal specifically avoids civilian adaptations or make-shift solutions to the problem. The

retired files of the 1st Combat Applications Group, United States Air Force Special Operations Force (USAFSOF), are filled with unsuccessful (or only partially successful) attempts to modify, or otherwise employ, civilian aircraft for the small war role. In those cases where the employment of civilian aircraft was successful, the chosen assets were used in combat in almost exactly the same mission performance envelope that they were designed for in civilian roles. Otherwise, even the most successful adaptations fell short of needed performance, mainly because the candidate aircraft were both insufficiently powered and stressed for the rigors of combat flying.

#### Background

During and after the war in Southeast Asia (SEA), US development of specialized counter guerrilla or small war weapons proceeded along the line of high technology and increasingly complex equipment. The effort for Southeast Asia culminated in a multibillion dollar electronic sensor system that was incorporated into a vast radar and tactical air control net for directing high-speed fighters against fleeting targets. Intelligence capabilities were upgraded throughout the war and afterwards through developments in advanced computer technology, electronic surveillance, and high-altitude photography. Aircraft became highly sophisticated weapon platforms with the most advanced target acquisition and fire control systems available.

However effective these weapons might have been in combat, it is clear that none of the underdeveloped nations can follow our lead in that direction. Moreover, such aircraft as the computer-controlled, side-firing C-130 gunship and the A-10 bomber from the current USAF

inventory that do lend themselves to the small war mission are not available as MAP assets. Even if they were available, they could not be supported by the typical MAP country, for financial and technological reasons. The line aircraft of the Air Force represent, for the most part, a level of technology that can not be exported, at least not to those countries most likely to experience combat at the low-intensity level.

Even where direct US involvement must be considered, there is the problem of political sensitivity over the commitment of high-priority, "high-visibility" combat assets to low-intensity conflicts that do not appear to pose an immediate, direct danger to the United States. In almost all cases, the problem of soaring costs for sophisticated major end items has led to political and monetary restraints on the allocation of combat assets for either direct participation or military assistance in low-intensity conflicts. Lacking aircraft weapon systems designed specifically for the small war mission, the Air Force is moving increasingly toward an all-or-nothing defense posture.

Many, if not all, of the friendly states in Central America, South America, and Southeast Asia would benefit considerably by the addition of a cheap, yet effective, aerial surveillance, reconnaissance, and light-strike capability. There is, however, nothing in that category available from the present MAP inventory. In fact, it is doubtful that there is such a thing as a "MAP inventory" of military aircraft for small wars. The vintage collection of World War II and Korean War aircraft was used up years ago, and the relatively unsophisticated small war aircraft that survived the conflict in Southeast Asia were left in Thailand, Laos, Vietnam, and the Khmer

Republic. The O1-D, which was the last large-scale production aircraft that even came close to filling the requirement for a light armed surveillance platform, is gone now, and there is nothing to take its place in the performance range and quantities required. The O-2 forward air control (FAC) aircraft is not in this category due to its high cost, complexity, and marginal performance. In spite of the heavy, almost complete, attrition of light aircraft during the Southeast Asia conflict, this category received little notice, and certainly no emphasis, during the effort to upgrade USAF small war capabilities in the late phases of the war. During the post-war period, the issue was dropped completely.

In 1971, an attempt was made to develop a light strike and surveillance capability for the friendly nations of Southeast Asia, particularly South Vietnam. Large numbers of these aircraft might have been employed against Communist infiltration and logistics movements on the Ho Chi Minh Trail and the supply routes leading into the greater part of South Vietnam. Under operation Pave Coin, a combined United States Air Force, Royal Thai Air Force, and US civilian team under the control of the Thai Armed Forces and USMACTHAI/JUSMAGTHAI tested and evaluated two different prototype LAUSTOL aircraft in Thailand. The candidate aircraft chosen for test and evaluation were the Fairchild Industries AU-23 Peacemaker and the General Aircraft Corporation AU-24 Helio Stallion. Using manufacturer-provided aircraft, pilots of the Royal Thai Air Force conducted air combat operations from remote sites in northern Thailand against guerrilla forces located in heavily forested, mountain terrain. These operations included close air support, armed reconnaissance, surveillance, FAC,

interdiction, and resupply. The tests and evaluations were largely successful and resulted in the acquisition of two squadrons of aircraft--one squadron of AU-23s for the Royal Thai Air Force and one squadron of AU-24s for the Air Force of the Khmer Republic. Nothing more came of the Pave Coin project once the aircraft were delivered to the respective owners and the indigenous aircrews were trained for combat.

The test and evaluation of these aircraft were merely an attempt to find a near-term solution to the SEA infiltration problem through the use of immediately available assets. The selection of the two candidate aircraft for the LAUSTOL mission was not an all-out application of modern technology to develop a specialized weapon system. Both aircraft were military adaptations of civilian models with considerably limited performance under combat conditions. Moreover, they were both fairly sophisticated aircraft with turbo engines and high price tags (over \$500,000 in 1971). This cost was not much compared to, say, an F-4 Phantom, but it would have amounted to a very significant budget item considering the large number of these assets that would have been turned over to the South Vietnamese Air Force had the original concept of employment been fully implemented.

In any event, modern technology was never really applied to the development of a light armed surveillance capability. During the war, the light, piston-driven FAC aircraft were largely denied permission to strike targets of opportunity. Thus, almost no effort was put into the development or improvement of such a capability. O1-Ds and O-2s were used almost exclusively in the FAC role, a policy that stemmed from the roles and missions issue. This policy was unfortunate, since it often

resulted in the loss of fleeting targets. Arming the FAC or, even better, developing a surveillance aircraft in the same performance range and weight category that could deliver offensive firepower would have yielded better results in the mid- to late-1960s because the FAC/surveillance aircrews were usually the only fixed-wing pilots who were flying low enough and slow enough to see what was going on in the target area.

FACs in Southeast Asia, particularly the Raven FACs in Laos, proved that they could strike targets of opportunity. Such targets presented themselves for only a few seconds before disappearing under forest canopy or into underground fortifications. Small river boats, road vehicles, and guerrilla units moving on foot are examples of the fleeting targets encountered by these pilots. The difficulty involved in finding concealed targets, the need to strike quickly, and the need to reduce the ordnance delivery range to an absolute minimum points out that the nature of aerial combat operations in low-intensity conflict often rules out the effective use of high-speed aircraft.

#### The Small Wars Setting

Guerrilla forces rarely present a clearly identifiable target. Generally outmanned and outgunned, they usually operate in small fighting and logistics units whose main defenses are concealment and mobility. Their movements are quick and often in close proximity to friendly civilian groups. They prefer to attack isolated outposts or to strike from ambush rather than to close with a superior force. Using increasingly available ultralight field communications equipment,

guerrillas are capable of quickly forming relatively large units (200 or more personnel) for attacking selected targets. When the attack is completed, these larger units break up and scatter to reform and strike at a later time of their own choosing.

Possessing no major sophisticated weapons of their own, guerrilla units have virtually nothing to lose to artillery fire and aerial bombardment except people and their cheap personal weapons. Their major lines of communication are often nothing but a labyrinth of streams, rivers, footpaths, and small roads that sometimes intersect or coincide with public byways. These are poor targets for conventional interdiction. Except under extraordinary circumstances, the movements of guerrilla ambush and supply teams are all but invisible to high-speed aircraft.

The hard-won lesson of Vietnam is that the small size of a guerrilla unit is completely out of proportion to the amount of money, time, and human resources that must be spent in finding and destroying it. This is especially true when large-scale conventional operations and tactics supported by jet fighter bombers are pitted against small, dispersed units operating in close proximity to friendly civilian groups and under concealment in rugged terrain. The first challenge in any *counterguerrilla* operation is finding the enemy. This means generating legitimate targets using current, accurate information on the entire target area, not just within the zone of a sweep or search and destroy offensive. The second challenge is to destroy the enemy as quickly and cheaply as possible. Most guerrilla targets are fleeting and "low yield." High-speed reconnaissance and strike aircraft are not well suited either to finding this type target or destroying it cheaply.

Visual, aerial reconnaissance and surveillance of the guerrilla operating area is most effective when conducted at low altitude (below 1500 feet) and at low speed (under 125 knots). The effectiveness of visual surveillance deteriorates rapidly above these limits. Very few jet pilots actually saw a human target during the war in Southeast Asia. FACs were the pilots who saw these targets from their low and slow vantage point. A FAC could direct heavier strike assets against them, but by the time strike aircraft could be called up or diverted from another mission, targets had usually disappeared. The best a FAC could do in most cases was mark the area with smoke and hope that a fighter could hit it. Initiative was often lost within moments of making a sighting because FACs were not armed with guns or high explosive rockets. In the typical small war setting those first few moments will be even more important because there will not be masses of fighters sitting on ramp alert or available through airborne alert and diversion as there were in Southeast Asia. If a target is going to be struck with ordnance, particularly if it is fleeting, the greatest chances of success lie with the aircraft that found it in the first place. Therefore, aircraft used in the surveillance/reconnaissance/FAC roles should be armed.

Surveillance assets are most effective when deployed forward as a dedicated part of the counter guerrilla ground force and tied in directly with the tactical intelligence network. Light FAC aircraft played a crucial role in Southeast Asia for precisely this reason. In the rugged highlands of Southeast Asia, FACs flew from one primitive site to another seeking intelligence on enemy positions and movements. These pilots were successful largely because their intelligence contacts had



first-hand knowledge of the enemy's ground order of battle. As exemplified in Laos, and typical of small wars everywhere, very little of the entire body of intelligence information ever finds its way into a central collection agency. Much of this intelligence is in the hands of people who are outside the military structure, and in many cases, cut off from the main lines of communication. In the small wars setting, it is often paramilitary personnel or civilians living in isolated garrisons, villages, and farms who are the best or only sources of tactical intelligence. Counterguerrilla forces must be able to move into this setting and acquire target data. This requires flying into very small, remote airstrips that can be developed into a network of operational bases for follow-on reconnaissance and strike sorties. After securing the required intelligence and target validation at the forward site, pilots can launch, visually identify the target, and initiate action for immediate strike or further reconnaissance. This, of course, presupposes the existence of a working tactical air control net, which, given the availability of FM field communications and relay capabilities, should be available in any setting where small wars are likely.

#### Roles and Missions

Employed correctly with counterguerrilla ground forces and helicopter rapid reaction teams, light armed surveillance aircraft, provided in sufficient numbers, could contribute decisively to a small country achieving a winning combination of weapons and tactics for limited-intensity conflict. The aircraft should be capable of providing armed surveillance and reconnaissance, FAC, convoy escort, and perimeter

defense. It should do so at initial investment and operating costs that are within realistic funding allocations for military assistance to third world nations. The aircraft should be sufficiently uncomplicated and rugged to operate for extended periods under primitive conditions without sophisticated maintenance support.

Since the only fixed-wing airframes available through MAP or Foreign Military Sales (FMS) are suited primarily to air-to-air or conventional air-to-ground interdiction missions, the task of supporting counter guerrilla field units usually falls to helicopters. These aircraft have a proven capability in limited-intensity warfare, but they are multimillion dollar assets and are thus available to financially impoverished countries in very limited numbers. Their operating and maintenance (O&M) costs are extremely high, running into hundreds of dollars per flying hour, and they require extensive, sophisticated maintenance, especially for battle damage repair. Limited airframe availability and fiendish expense are sharply at odds with the need for sustained saturation of the guerrilla operating area with surveillance platforms that have some kind of ordnance delivery capability. Moreover, helicopters are considerably more vulnerable to small arms fire than light fixed-wing types. The downing of a helicopter is generally considered by MAP countries to be a major loss.

Given an alternative, helicopters should be retained for missions where they offer a unique and vital advantage--vertical lift of counter guerrilla rapid reaction forces and infiltration teams, medical evacuation, resupply, and special logistics operations. This is not to deny the effectiveness of, say, a helicopter gunship in the armed surveillance and reconnaissance role, but rather realistically to define

the helicopter's mission in limited-intensity conflict within the context of limited funding and airframe availability.

#### General Concept of Operations

Basing, organizational assignment, and employment of a light armed surveillance aircraft force will vary with each country's concept of organization, military requirements, and combat objectives. No single concept will apply in detail to all military forces engaged in low-intensity conflict. The history of light aircraft operations in counter guerrilla warfare, however, suggests the following considerations and recommendations. Given a reasonable short take-off and land (STOL) capability, light armed surveillance aircraft should be attached to and deployed with small ground combat units. Fixed-base operations from large built-up facilities outside the combat area should be avoided. Aircraft should be immediately available to the ground force commander as assigned or attached resources of the counter guerrilla attack or reconnaissance unit. When the unit moves, the aircraft should move with it. If the move is overland, the aircraft should fly protective cover. When the unit stops and establishes an operating base, the aircraft should fly perimeter defense and area surveillance in direct support of the base.

Where helicopters are assigned, or otherwise made available, to ground combat units, a single integrated attack team concept should be adopted. Under this concept, the armed reconnaissance and surveillance mission would be assigned to light armed surveillance aircraft and helicopters would be dedicated to responding with combat assault teams to sightings by the reconnaissance and surveillance assets. Fighter bombers

would be integrated into the tactical air control net with the helicopter assault teams and reconnaissance-surveillance aircraft. If necessary, the heavier strike aircraft would provide close air support for helicopter assault teams over and above that available from light aircraft. The light aircraft would coordinate helicopter assault operations by providing landing vectors, landing site information, identification of enemy positions, and ground fire information.

The geographic area under the ground force commander's responsibility should be divided into sectors for assignment to individual light armed surveillance pilots. With several pilots assigned to each sector, the operating area could be kept under continuous surveillance during daylight hours. A night capability might be developed depending on pilot experience, local terrain, and mission requirements. A sector would become a pilot's beat. A pilot would patrol the assigned sector and learn it well enough to notice small changes in its features. Possessing an aircraft that could land and take off from very short, relatively unimproved surfaces, a pilot would be able to establish links with intelligence sources within the area's indigenous civilian and military groups. Indigenous personnel might even use visual codes to signal information on enemy movements to the surveillance pilot.

The mission of continuous, armed, low-altitude visual reconnaissance and surveillance of the guerrilla operating area is probably the most important application of air power in limited intensity warfare, and it is the one for which the Air Force is least prepared. It is a mission that high-speed fighters are incapable of performing, especially when it is combined with other mission options inherent in light armed

surveillance aircraft. A brief review of these capabilities will help make the point.

#### Light Armed Reconnaissance and Surveillance

Where insurgents are mixed in with a friendly rural population, responsible surveillance and reporting require acute discrimination. Separating friend from foe is many times a matter of getting close enough to identify a group by its clothing and equipment. Many important visual sightings and intelligence photographs in Southeast Asia were taken from light aircraft flying below the tree canopy in small open areas of the rain forest and along streams and rivers. In some instances, a 35-mm single lens reflex camera combined with a 105-mm telephoto lens was sufficient to capture evidence of heavy guerrilla activity in areas previously thought to be unoccupied.

The STOL characteristics of light armed surveillance aircraft allow ground force commanders to push their intelligence gathering devices deeper into their operating areas. Such aircraft provide access to isolated villages and garrisons where local civilians and paramilitary personnel daily observe slight movements indicating the presence and whereabouts of guerrilla forces. In many cases, guerrilla leaders, and their personnel are known to the local inhabitants by name. Guerrillas are often hunted as individuals and must be identified as such. Warfare at this level is generally beyond the sophisticated realm of computer imagery, high-altitude infrared photography, and laser designator fire control systems. An effective counter guerrilla operation must ultimately rely upon something far more personal in intelligence collection and target identification and validation. A ground force

commander must have physical access to those people outside the main lines of communication who can report accurately on the exact location and strength of enemy units or individuals.

Light armed surveillance pilots could act on this information and continue their surveillance and reconnaissance to pinpoint the enemy's position or follow up action by the ground force commander or, possessing an ordnance delivery capability of their own, strike and destroy or pin down a target until heavier strike assets arrive.

#### Forward Air Control

In most cases, small garrisons of irregulars or government soldiers at isolated villages and observation sites are positioned there for defensive purposes only and are unable to attack enemy forces outside the perimeter. They may be acutely aware of the enemy's position and daily movements, but lack the firepower and numbers to mount an offensive of their own. Typically, many of these defensive positions are outside the tactical air control net and are rarely accessible by road due to the threat of ambush. The light armed surveillance aircraft pilot could move between the sites, collecting intelligence on enemy activities. In large areas of Southeast Asia, this was the most current, accurate type of intelligence available during the war.

Having received a target and proper validation from the local site, the pilot could shift missions from reconnaissance and surveillance to forward air control by climbing to altitude and calling strike aircraft through the tactical air control net. The light armed surveillance aircraft should be capable of marking targets and directing ordnance delivery for all types of strike aircraft up to and including

high-performance fighter bombers. Keep in mind, however, that the use of heavy ordnance is often detrimental to the counter guerrilla effort, especially in densely populated regions. Heavy bombing of suspected enemy positions is an old story, one with which we are all too familiar. It is an expensive way to fight a limited-intensity war and seldom leads to decisive results. In a very short time it depletes the meager combat resources of a small third world country, and in the end, alienates more people than it destroys on the enemy side or saves on the friendly side.

As with any aircraft used in the FAC role, standard FAC principles would apply, but specific tactics and delivery methods would be based on the target itself, on available marking ordnance, and on the aircraft's limitations. Of paramount importance in achieving the FAC capability is the compatibility of radio equipment with the rest of tactical air control net. As a minimum, FACs must be able to communicate with strike aircraft. If FACs are required to direct air strikes for close air support and site defense, they must also be able to communicate with ground positions.

As indicated earlier in this chapter, light armed surveillance aircraft should, whenever possible, be positioned with ground combat units in forward operating areas. Counter guerrilla forces conducting search and destroy or sweep operations could thus provide themselves FAC cover at will from dedicated resources.

#### Convoy Escort

Light armed surveillance aircraft would be capable of providing convoy escort either alone or in concert with other strike assets. Taking full advantage of its low-speed flight characteristics, the

aircraft would be able to move with, and somewhat ahead of, the convoy to sight and draw first fire from enemy ambushes. When employed alone, the aircraft could return fire, and when employed with other strike aircraft, convert to the FAC role. With proper air-ground communications, the escort aircraft could advise the convoy commander of road conditions, ambush positions, and enemy strength.

#### Perimeter Defense

An aircraft of this type would be especially well suited for security patrol operations on the perimeters of fixed military installations, Special Forces camps, and village defense posts. In this role, the aircraft could provide surveillance of the perimeter zone, deliver ordnance against enemy forces around the site, adjust defensive mortar and artillery fire, and provide FAC support for other strike aircraft. Ranging outside the perimeter zone, the aircraft could locate enemy mortars and artillery and adjust return fire or convert to the strike or FAC role. Another important aspect of the perimeter defense mission would be flying surveillance and close air support for ground patrol and reconnaissance teams conducting perimeter sweep operations.

Perimeter defense by no means completes the list of roles light armed surveillance aircraft could play in a small war. Many others now exist and others would probably evolve if such a system existed. For example, such aircraft could serve as administrative couriers, transport medics or doctors to isolated areas, provide emergency medical evacuation, support infiltration-exfiltration efforts, provide emergency logistics airlift, and serve as platforms for psychological warfare operations.



### Design Considerations

It is not the purpose here to lay out the design and engineering specifications for light armed surveillance aircraft. Still, the general concept of employment discussed above suggests certain features in cost, performance, and construction that should be considered during the initial design and planning phase. Such features are nothing more than minimum, basic guidelines that should be incorporated into the overall design strategy.

### Survivability

One of the most common objections to an aircraft of the type proposed in this chapter is its vulnerability to antiaircraft fire. Many people assume that, in comparison to other types, light aircraft are more likely to be damaged or shot down by ground fire because of their low speed. That impression is not completely unfounded, but there are other factors that must be considered when evaluating their overall effectiveness and the feasibility of employing them.

The proposed weapon system should be designed primarily for a counter guerrilla role in limited-intensity conflict and for survival against the kind of ground-to-air weapons typical of that setting. It is not envisioned that light armed surveillance aircraft be employed against heavy, crew-served weapons, particularly those with advanced electronic control systems. Ground fire from manually operated 12.7-mm and 14.5-mm guns can be expected in the guerrilla operating area, and, of course, weapons of this size have a greater effective range than small arms. Still, light armed surveillance aircraft probably face far

more risk from the relatively large number of small arms carried by guerrilla bands than from the smaller number of 12.7-mm and 14.5-mm guns.

When using approved tactics and procedures, light aircraft such as the O1-D have proven their superiority over other types of aircraft in low-intensity FAC and surveillance roles, and they have done so with acceptable attrition. A new design incorporating such modern engineering techniques and materials as foam block and honeycomb construction, light weight, multilayer glass fiber armor cockpits, and foam filled fuel cells can enhanced survivability of light aircraft in the so-called semipermissive combat environment of counter guerrilla warfare.

The point might be raised that the introduction of hand-held surface-to-air missiles will effectively neutralize the potential of light armed surveillance aircraft. Such weapons are a threat to light aircraft, but they are a threat to other types as well. Because of its small size and low exhaust volume and temperature, a light aircraft powered by a reciprocating engine may, in fact, offer much less radar return and infrared emission than larger high-speed aircraft. Modern design techniques and improved materials could probably reduce the radar/IR signature of light aircraft even more. For reasons that are not entirely clear at this time, hand-held antiaircraft missiles have not been used in limited-intensity conflicts to the extent anticipated. This is not to imply that such weapons will not be introduced in greater numbers, but the mere possibility of their use should not lead to the conclusion that development of a modern light aircraft for counter guerrilla operations is impractical.

Purely as a matter of fact, individuals flying combat in a light armed surveillance aircraft are probably at no more risk than they would be facing AK-47 or M-16 fire on the ground. On the practical side of this issue, however, it seems obvious that human risk factors and aircraft survivability must be assessed in somewhat more complicated terms. It can be argued, for instance, that pilots are a very precious asset in those countries where light armed surveillance aircraft are needed most. Even in the third world, pilots are generally commissioned officers selected from service academies for one year of flight training plus several additional months of combat crew training. The lead time for acquiring a qualified, rated combat pilot is something on the order of five and a half years. In view of the time and expense involved, these countries have difficulty maintaining an acceptable pilot-aircraft crew ratio for their existing inventory. They could face real trouble in meeting an initial aircrew manning requirement generated by the introduction of, say, 25 or 30 light armed surveillance aircraft. It is understandable, then, that many of these countries would be reluctant to commit the few highly trained and educated pilots they do have to a mission involving flying cheap aircraft against even cheaper targets with the possibility of far more exposure to small arms ground fire than would normally be experienced in a jet aircraft.

So, how do we evaluate this situation and make sense out of it? Is there a good solution, at least for MAP countries? In the first place, those cheap targets are probably the best and only targets available in the small wars setting. The destruction or survival of those targets will eventually make the difference between a successful counter guerrilla operation and a failure that could result in the fall

of the national government. In the second place, it does not take a four year academy graduate to fly a light aircraft in combat. Nor does the pilot have to be a commissioned officer with more than a year of flying training. Given a sufficient sense of national urgency and the resolve to bypass tradition (if that is what it takes to win), almost any nation can find among its citizens those who are both willing and able to fly and fight in a light aircraft without benefit of a four year technical degree or a commission.

Over a period of approximately 10 years, a USAF training detachment at Udorn Air Base, Thailand, produced scores of combat ready AT-28 strike pilots using a course of instruction that lasted exactly six months, ground school included. Few of the students trained in that program possessed even the equivalent of a high school education, yet their effectiveness in battle was exemplary. As a matter of expediency, these pilots satisfied a specific need at a specific time and place in Southeast Asia. Although the overall cost in time and money for their training was more than that for the same number of properly trained infantrymen, it was not extravagantly more, which brings us back to the point made earlier. A pilot trained only for duty in light armed surveillance aircraft and enlisted (or commissioned) only for the duration of the war does not represent an unacceptable investment risk. There should be no problem finding bright young men who would prefer to fly rather than fight on the ground, and it is doubtful that many of them would consider themselves at greater risk in a light armed surveillance aircraft than in a ground combat unit. Moreover, as a matter of pure practicality, placing one surveillance

pilot at risk is preferable to placing an entire company or convoy at risk because the location of enemy guerrilla positions is unknown.

#### Simplicity and Low Cost

There is an overriding requirement for simplicity and low cost. The primary objective is to produce large numbers of this type aircraft for use by the US military and by MAP countries in a low-threat, low-intensity environment. Its operational role in the US military would probably be the same as that of MAP recipients with additional emphasis on the requirement to field military training and advisory teams. The requirement for low cost is driven partly by the fact that a fairly sizable ready reserve of these aircraft should be maintained within the US force structure for emergency deployment to third world nations that become targets of guerrilla-terrorist attacks. Production of the aircraft must be adequate to meet the needs of a direct US armed forces commitment in limited-intensity conflict and the MAP/FMS commitment.

As third world nations realize that multimillion dollar prestige fighters do little or nothing to meet their internal defense requirements, there will probably be an increasing demand for an aircraft that is designed and produced exclusively for low-cost counter guerrilla operations. In almost all cases, initial investment and O&M costs will be critical factors in their decision to purchase such an aircraft in the numbers required for optimum effectiveness. When a potential user of this aircraft cannot afford to buy it through FMS, the United States must be prepared to meet the requirement through

Military Grant Aid. Again, investment costs and O&M support will be major considerations.

One of the most controversial and least understood aspects of limited-intensity conflict is the great difference in effectiveness between so-called high-performance fixed-wing aircraft with their state-of-the-art systems and the relatively simple, basic design proposed in this article. A simple, basic airframe and powerplant can be maintained in the field under austere conditions by largely illiterate, indigenous personnel; the advanced performance systems can not. The "low-performance" aircraft provides access to the interior of a rugged, underdeveloped nation that possesses few, if any, aviation support facilities. The advanced systems do not provide such access.

To place this issue of simplicity and low cost squarely in the context of US national security, one must realize that the demand for an aircraft of this type is more than a mere possibility. Guerrilla warfare is a reality with which few third world countries are able to cope, due to their general lack of funding and technical resources. While US government and industry are directing their major efforts toward the development of weapons to fight in space and on the battlefields of Europe, the Communists are advancing their aims through incessant, well-financed guerrilla warfare and terrorism in countries that are alarmingly close to the borders of the continental United States. Such countries as El Salvador and Honduras were hardly taken seriously a decade ago by the world community of industrial nations. Today, these countries are in the middle of a firestorm that threatens to engulf the whole of Central America and cut the western hemisphere in two.

When the United States responded to the present crisis in El Salvador, the small amount of MAP funding for the Salvadoran Air Force was quickly used up in fiscal year 1983 through the transfer of six A-37 fighter bombers, four O-2 observation-forward air control aircraft, two C-123 transport aircraft, and twenty-two aging UH-1H helicopters in various configurations. The total amount of MAP support for El Salvador that year was so small (approximately \$33 million) that significant funds for aircraft spare parts were eventually diverted to small arms ammunition and clothing. However, even if there had been adequate funding, the US military possessed nothing in its MAP grant aid inventory to satisfy the existing requirement for light, armed, fixed-wing aircraft that could be maintained at reasonably low-cost levels and that possessed a specific and genuine application to low-intensity conflict. Even under the special funding considerations that allowed the transfer of these aircraft at sharply reduced unit prices, the amount of money spent on the six A-37s (approximately \$4 million) and the four O-2s (approximately \$500,000) would have easily purchased the requisite number of light armed surveillance aircraft, had such a weapon system existed. If light armed surveillance aircraft could be produced in quantities at \$100,000 each, the direct trade-off in basic airframes would have been 45 aircraft of the suggested type for 6 A-37s and 4 O-2s. Even if light armed surveillance aircraft cost \$150,000 each, that cost would be no more than the replacement cost for one A-37 engine. Moreover, the MAP funds remaining in the Air Force O&M account after the funds for spare parts were diverted would have supported far more flying hours for a light aircraft than for a twin engine jet fighter. The overall cost per flying hour for the light

armed surveillance aircraft envisioned here would be only a fraction of the hourly flying cost of the A-37.

The A-37's ability to deliver bombs offers only a marginal advantage to the counter guerrilla effort in El Salvador because of the high population density of the country and the close proximity of guerrilla targets to the civilian population. The aircraft is not suited to the task of low-speed, low-altitude surveillance and reconnaissance, and it cannot operate out of unimproved airstrips. The A-37 is restricted to strike operations from the main air base at Illepongo on the outskirts of San Salvador.

The O-2 can function in the armed reconnaissance role, but there are rarely more than two of these aircraft in commission at one time. What airframes are available are used primarily as FAC assets for the A-37. The aircraft is underpowered, difficult to maintain in the field, expensive to operate, and out of production.

It is conceivable that OV-10 aircraft will eventually be released from the USAF inventory for MAP Grant Aid use. The OV-10 was designed and produced specifically for unconventional warfare and the so-called counterinsurgency role. It is certainly capable of flying armed surveillance and reconnaissance in low-intensity conflict. The OV-10, however, is not a light aircraft and would not fill the requirement for a cheap, easy to maintain weapon system that could be sold or given away in large numbers. Air power can achieve an advantage in counter guerrilla operations through intense, sustained surveillance of the guerrilla operating area, but that requires a higher sortie generation rate than any MAP country could produce from the small number of OV-10s that they are likely to receive under Military Grant Aid.



Even if we set aside the issue of cost for a moment, the worldwide MAP requirement for a light armed surveillance platform exceeds, by far, the total number of OV-10s that will ever be available from the inventory.

Generating a capability to apply airpower in low-intensity conflict should begin with a strong emphasis on producing an aircraft especially suited to the mission. Lacking a formal design and engineering study on light armed surveillance aircraft, it is useless to speculate on what is possible within the resources of modern technology. Specific performance objectives must, of course, be coordinated with existing aero-manufacturing capabilities to determine the feasibility of producing such an aircraft in the numbers required and the upper and lower limits of cost-performance options. In general terms, however, the aircraft must be capable of operating in the range of roles and missions defined in this study. In this sense, flying performance equal to that of the O-1D should be sufficient.

Light armed surveillance aircraft should carry two forward firing guns and should be able to deliver 2.75-inch high-velocity rockets. Ammunition for guns and all POL requirements for the power plant should be compatible with standard US Army field issue.

The aircraft should possess a set of basic flying instruments including an attitude gyro, a miniaturized, solid state FM radio with accommodations for an additional miniaturized UHF set, and accommodations for either miniaturized distance measuring equipment or automatic direction finding. The instrumentation-avionics package should require no further elaboration.

The aircraft should be designed and engineered to reduce the requirement for specialized maintenance and supply procedures to a

minimum. Initial design and engineering considerations should emphasize a remove-and-replace concept combined with throwaway components wherever possible and feasible.

The airframe should, if possible, be designed for rapid assembly and reassembly of major components. This feature is a great advantage in small aircraft that must be shipped overseas to underdeveloped countries lacking adequate aircraft maintenance facilities. It is also an advantage in repairing aircraft in the field under primitive conditions. Assembly and disassembly should be possible using nothing more specialized than Army motor pool maintenance skills. In the interest of low cost, ease of maintenance, and compatibility with primitive field conditions, the aircraft should be powered by a reciprocating engine and propeller.

#### Summary

While US defense efforts have been directed primarily towards the design and production of sophisticated weapons for high-intensity warfare, the Soviets and their client states have been developing an expanding base of influence throughout the underdeveloped nations of the world under conditions that restrict, or even preclude, the employment of general purpose forces. US security objectives have been met, in part, through the present defense posture of nuclear deterrence and a high-order conventional response capability; however, the emphasis on high technology and ultrahigh performance has seriously compromised the ability of the United States Air Force to counter a low-intensity threat. The Air Force lacks, for the most part, the types of aircraft

and tactics required to fill such a specialized role, particularly in military assistance.

If the Air Force is going to make an effective contribution to meeting US security objectives in the third world, it must do so by acquiring a low-order combat response capability. A serious move in that direction must, of course, begin with a basic commitment to develop Air Force doctrine, plans, and strategy for limited-intensity conflict. Essential to the commitment itself is the application of modern technology to the development of specialized weapons systems for small wars. The most promising of these weapons is the light armed surveillance aircraft.

IMPLICATIONS OF CHANGING COMBAT  
DOCTRINE AND EVOLVING THREATS  
ON FUTURE TACTICAL AIRLIFTER  
REQUIREMENTS

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# IMPLICATIONS OF CHANGING COMBAT DOCTRINE AND EVOLVING THREATS ON FUTURE TACTICAL AIRLIFTER REQUIREMENTS

## INTRODUCTION

Tactical airlift has, since its operational debut in World War II, proved to be an indispensable component of U.S. airpower. In each successive military operation or conflict, culminating most recently in Grenada, dependence upon tactical airlift's traditional missions--the in-theater air movement of troops, supplies, and equipment on a sustained, selective, or emergency basis--has increased significantly. As we look to the future, we not only expect that this pattern will continue, but we expect that certain of the changes currently being made in U.S. military doctrine and force structure could result in an expanded role for the tactical airlift force and a corresponding need for a new tactical transport aircraft.

In essence, many of these changes are a reflection of an emerging strategic reality which the theme of this symposium acknowledges; namely, that the likelihood of a NATO conflict has diminished, only to be replaced by a more elusive threat to U.S. geostrategic interests and commitments--low intensity conflict (LIC).

In any current or future conflict, however, the threat environment in which transport aircraft will be expected to operate will be far more lethal than in the past. Across the spectrum of non-nuclear conflict, the array of AAA/SAI systems that can be encountered in any given theater is far more formidable today, in terms of numbers and sophistication, than was routinely encountered in Vietnam. The pervasiveness of such hostile weapons systems will necessarily impact

upon the ability of transport aircraft to carry out even traditional airlift missions. This intensive threat environment, in combination with evolving military doctrine, has focused attention on the inadequacy of transport aircraft survivability and has, in turn, created a requirement to enhance the survivability of existing and future airlifters.

This paper reviews, from a Lockheed-Georgia perspective, requirements considerations for a future tactical transport aircraft that would be expected to operate in a low intensity conflict. The recent changes in combat doctrine which are relevant to such low level conflicts and the anticipated LIC threat environment are examined to determine their impact on these requirements. We conclude our presentation with a preliminary list of requirements which are derived from a comprehensive tactical airlift needs analysis effort currently underway at the Lockheed-Georgia Company.

#### DEFINITION OF TERMS

For this discussion, low intensity conflict is broadly defined as any conflict in which the United States and the Soviet Union are not engaged simultaneously. Within this context, however, low intensity conflicts may run the gamut from a Vietnam-type conflict (e.g., limited) to the bombing of the Marine compound in Beirut (e.g., terrorism). In terms of the threat environment, tactical fighters will probably not play a major role in LICs, except in the case of "limited" conflicts. However, because of the likelihood of U.S. forces encountering Soviet-equipped proxy or surrogate forces, the level of threat may well include both fighter and ground-based air defense systems, as well as Soviet tactics of employment.

## A FERMENTING WORLD

Today, the numerous nationalistic, religious, ethnic, and economic grievances which have long fermented within Third World nations are surfacing in a variety of forms which threaten not only the geostrategic interests of the United States, but her allies as well. The Soviet's willingness to exploit these grievances, surreptitiously or through overt or surrogate military assistance, has dramatically compounded the the inevitability that U.S. forces may be required to defend and preserve U.S access to the many strategic natural resources on which our nation depends. In addition to dependence on oil from the Persian Gulf states, the United States must import large percentages of strategic metals and minerals from Third World nations. Thus, it is disquieting to note the parallel between the potential world flash points shown in Figure 1 and those areas, shown in Figure 2, which supply strategic metals to the United States.

By far the most critical aspect of, as well as a contributing factor to, the instability that has become so wide-spread in recent years, is the growing proliferation of sophisticated and lethal weapons systems possessed by all nations and terrorist groups. Indeed, one need only pick up a publication such as Aerospace Daily on any random day to find that: "Brazil May Be Interested in MIG-23 Buy" (8/15/84); "Jordan Reported Unhappy With SA-8 Performance"(8/15/84); or "Syria Receiving Soviet SS-21s" (10/24/84); and "India Seen Using Western Arms Purchases to Pressure Soviets" (10/24/84). (Reference 1)

That this situation is by no means a phenomenon of the past year alone is evident in the following observation made by a military analysts in 1979:

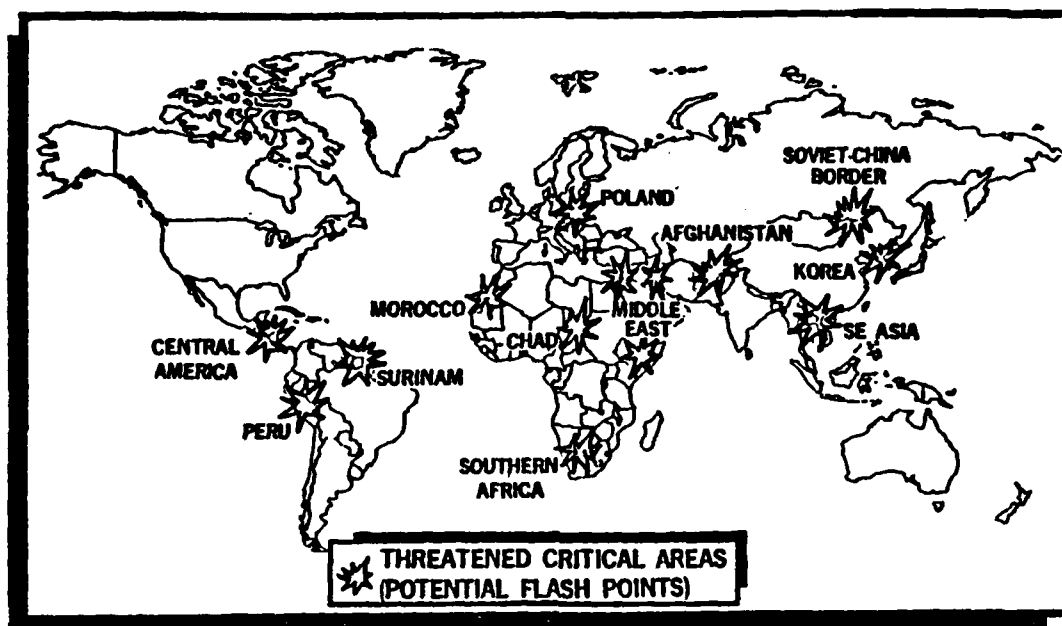


Figure 1. Threatened Critical Areas

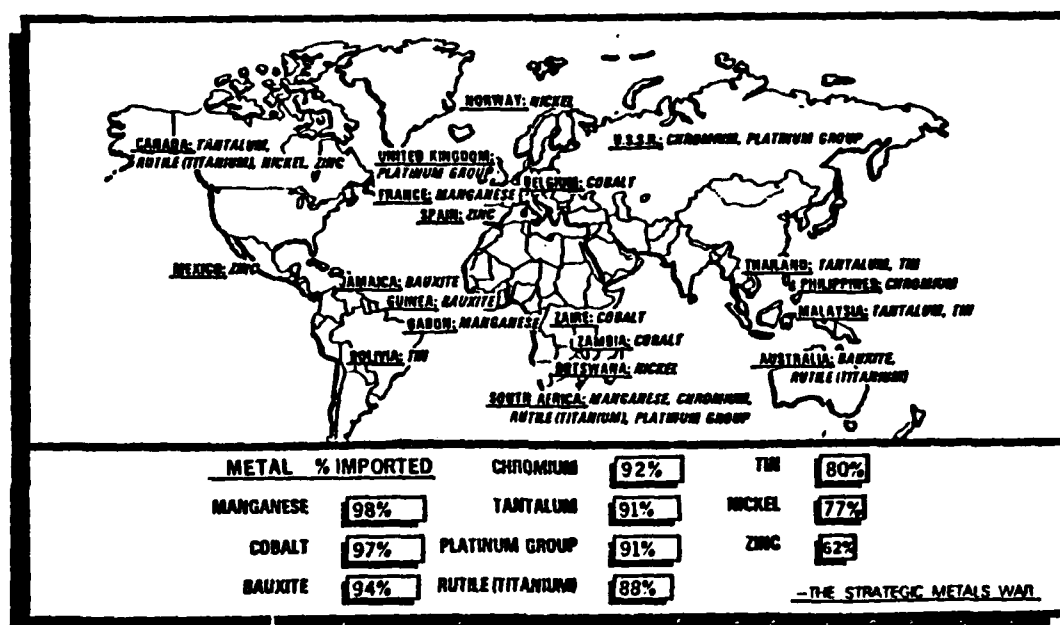


Figure 2. U.S. Dependence on Strategic Metals

(Source: Association of the U.S. Army under the auspices of the Landpower Education Fund, "Landpower: The Decisive Element -- A Reference Handbook.")



..low-order conflict is no longer necessarily synonymous with low-threat conflict, given the proliferation of high technology weaponry now in the hands of relatively "insignificant" states and assorted sub-national groups who enjoy the patronage of the major superpowers. (Reference 2)

Despite a growing awareness of the changing nature of international patterns in the post-Vietnam era, it took the seizure of the U.S. Embassy in Iran to bring home how vulnerable U.S. interests, as well as its citizens, were to the whims of fanatical dictators, Soviet sympathizers, and terrorist groups throughout the world. More importantly, the Iranian crisis convinced many within the U.S. military that immediate steps must be taken to enhance the conventional military posture of the United States and its ability to effectively project U.S. power in a timely manner.

#### U.S. RESPONSE TO A GROWING THREAT

The formation of the Rapid Deployment Force (RDF) in early 1980, followed by the RDF's subsequent elevation to a Unified Command, CENTCOM, in 1983 were the first major steps taken by the United States to establish a credible conventional military force to deter, or if deterrence failed, to defend non-NATO interests.

Other steps have followed which are designed both to achieve the level of flexibility considered necessary to prevent the escalation of minor crises and low-intensity conflicts into superpower confrontations, and to enhance the overall effectiveness of the U.S. military throughout the spectrum of conflict. In particular, these steps include:

- o Major revisions to U.S. Army doctrine (i.e., AirLand Battle Doctrine) and development of future warfighting concepts (i.e., Army 21 formerly AirLand Battle 2000).

- o The "lightening up" of several Army divisions to increase their mobility, yet retain their combat effectiveness.
- o The transfer of Air Force Special Operations Forces to the Military Airlift Command (MAC).

Additional specific steps may be forthcoming based on the results of several important studies in progress, and as a consequence of some significant recent events. For example:

- o The Air Force's on-going assessment of future operational requirements as defined in such documents as "Air Force 2000," the "Airlift Master Plan," and the "Vanguard Study Plan."
- o The Memorandum of Agreement (MOU) between the U.S. Army Chief of Staff, General John A. Wickham, Jr., and the Air Force Chief of Staff, General Charles A. Gabriel.
- o Mobility studies currently in work include the Worldwide Intratheater Mobility Study (WIMS) being conducted by OSD PA/E, and USAF Aeronautical Systems Division's (ASD) Mobility Mission Analysis project.

An overview of the potential impact of several of these steps on future tactical airlift operations and requirements is provided below.

#### AirLand Battle Doctrine

By far the most revolutionary change was the Army's adoption of a new warfighting doctrine--AirLand Battle. While this doctrine is currently equated primarily to a conflict in which Soviet forces are engaged, the basic tenets of this doctrine--initiative, synchronization, agility, and depth--apply to all levels of conflict. For instance in a low intensity conflict it is critical that the units engaged "move fast, strike hard, and finish rapidly." The success of the recent Grenada operation, and the Israelie raid on Entebbe are prime examples of this operational dictum. Likewise, AirLand Battle's emphasis on effective firepower, decisive maneuver, and retaining the initiative have equal

validity for LICs. (Reference 3)

Such emphasis also tends to imply an increased requirement for tactical mobility which, in turn, implies an expanded role for tactical transports that will capitalize upon their proven flexibility and versatility in a combat situation.

According to a recent article in Military Review, such capabilities take on added meaning in a low-intensity conflict:

..since low-intensity conflicts are dynamic and rarely short-term, we must be able to sustain the effort and ensure effective control. Sound logistics planning and rapid, robust communications are essential to success. Flexibility and responsiveness are the key word in logistics and communications in low-intensity environments. (Reference 4)

While a large portion of this mobility requirement will undoubtedly be met by helicopters, their range and payload capabilities will continue to restrict their use to small scale operations. Fixed-wing transports will, therefore, be required for the larger scale operations which, according to emerging doctrine, may routinely entail airlift operations further forward in the combat zone, or substantially deeper into an adversary's territory than in the past. The greater range capabilities of fixed-wing transports will also dictate their use in such areas as Southwest Asia where widely dispersed operating locations would likely be the norm.

These anticipated operational requirements associated with AirLand Battle Doctrine would significantly increase the threat exposure of current and future airlift forces. Consequently, unless airlift aircraft are designed and equipped to operate in the expected threat environment, unacceptable constraints will be imposed on future airlift operations.

### Light Division Initiative

The force restructuring that is taking place, primarily directed toward the formation of light, highly mobile, yet lethal forces which would be highly effective in a low intensity conflict, appears to support the trend toward increased reliance on tactical airlift aircraft. Specifically, the Army has introduced its Light Infantry Division (10K Division) concept, a force of approximately 10,000 men, structured around a primary core of "fighters" whose "light footprint" will permit "quick insertion and extraction, facilitating rapid restoration of an area to a peaceful environment."

Although the Light Division will possess sufficient high-mobility wheeled vehicles and Blackhawk helicopters to move the assault elements of one infantry battalion tactically by each means, fixed-wing tactical transports with their greater range and payload capabilities will, in all probability, support the combined intratheater mobility requirements of the nine infantry battalions which make up the new Divisions, including their organic anti-armor (DRAGON, TOW, AH-1S Cobra); fire support (105mm artillery); and air defense (20mm VULCAN cannons) systems.

The Army will begin conversion of the 7th Infantry Division to a light division in FY85. Other active component light divisions will be converted to the 10K design after an evaluation of the 7th is completed. For instance, two new light divisions will be added to the active Army force structure by 1987: the 6th Infantry Division stationed in Alaska, and the 10th Infantry Division stationed at Fort Drum, New York.

In addition to the 10K Division concept, the Army is also experimenting with another "light" concept, the High Technology Motorized Division (HTMD). The 9th Infantry Division is the test bed for this concept and is currently "evaluating emerging technologies and new operational, organization, and equipment concepts" applicable to the 10K Light Division, and possibly to the airborne, air assault, and heavy divisions. (Reference 5)

### MAC Mission Expands

If the Grenada operation (Urgent Fury) is any indication of the future, it would appear that the recent consolidation of Air Force Special Operations Forces under the Military Airlift Command has enhanced the effectiveness of all the missions affected--tactical and strategic airlift; special operations; combat rescue; aeromedical; and special operations low level (SOLL), to name a few. Maj. General William J. Mall, Jr., Commander of MAC's recently created 23rd Air Force, noted that the Grenada operation was a good example of how the various missions now consolidated under MAC could complement each other:

We felt the whole MAC family pulled together to make the Grenada operation a success. But, then SOF and airlift have worked well together for some time, particularly in the SOLL operations. (Reference 6)

Since Special Operations Forces play such a major role in low intensity conflicts, it would seem, using Grenada as an example, that in the future, more of MAC's forces will be involved to a greater degree in such operations. In fact, according to Brig. General Robert B. Patterson, Vice Commander of the 21st Air Force in an interview following Urgent Fury:

Virtually everything that had fixed-wings belonged to the Air Force and had a MAC patch on it.... It's time to rewrite the book and update our command relationships. MAC is becoming more and more a first on the scene; a "show-the-flag" force, operating in the absence of tactical fighter units. (Reference 7)

However, while Operation Urgent Fury proved to be highly successful, the operation did serve to bring out the need to modernize the Special Operations Forces since, as General Mall pointed out, "Most of our equipment is 19 to 20 years old." Primary needs include improved insertion and extraction capabilities, as well as special weapons/munitions.

The operation also served to point out the limitations than can be imposed on an airlift mission by hostile weapons fire, in this case, the 23mm anti-aircraft fire encountered during the initial airdrop of Rangers:

Flying at 500 feet and 120 knots to complete the airdrop [of Rangers]..., the C-130s were very vulnerable. Concern for the safety of the paratroopers and the aircraft forced the crews of the two C-130s following the general's [Mall] to abort their airdrops....At that moment the success of the mission was in doubt. (Reference 8)

The mission was salvaged, however, through the effective employment of the AC-130 Spectre Gunsip, a formidable system, but one which is falling behind the state-of-the-art.

Modernization of the tactical airlift force, with particular emphasis on improving aircraft survivability, could, therefore, significantly enhance the capabilities of the Special Operations Forces in the future as well as MAC's overall efforts in low intensity conflict operations. For the future, this latter point may take on added

importance since the MAC effort in Grenada supports a conclusion advanced in a recent report on LIC--"...in low intensity conflicts, airlift is the most important element next to intelligence....airlift will be employed immediately and throughout the conflict." As a consequence, the outcome of the conflict "will rest heavily on the effective use of available transport aircraft." (Reference 9)

Moreover, it is possible that with Special Operations Forces now under MAC's command, the versatility of tactical transport aircraft may be more frequently utilized to perform other "special operations" as they did during the Vietnam War. In that conflict, Air Force C-130s, C-123s, and C-7s played a variety of non-traditional roles such as: airborne command and control, close air support, interdiction, battlefield illumination, reconnaissance, in-flight refueling, and as launch platforms for stand-off weapons, drones and decoys.

Taken together, these changes, and potential redirections, appear not only to signal the military's intent to more aggressively defend U.S. interests and commitments whenever and wherever they are threatened, but a willingness to "take the fight to the enemy" at any level of conflict. However, since such changes are evolutionary by nature, and in fact currently focus on the late 1980s to mid 1990s time frame, their full impact on tactical transport missions and requirements can only be postulated. And, to be credible, such projections must also address the anticipated threat environment in which a future tactical transport aircraft will be expected to operate and the missions the aircraft will be expected to perform.

## THE LIC THREAT

As noted earlier, present trends indicate that in the future, tactical airlift aircraft could encounter a formidable array of threats regardless where the airlifters are employed, or at what level of conflict. By the mid-1990s, the numbers and capabilities of air defense systems in all areas of potential conflict may well have doubled those of the present.

While the most concentrated and advanced threat will continue to exist in the Central Region of Europe, the greatest diversity of threat types will exist in Southwest Asia. Generally speaking, in low intensity conflicts, a mixture of threat systems will be encountered, but they will be somewhat older and less capable--by the standards of the time. Nevertheless, these systems will pose a threat to be reckoned with, especially for transport aircraft without defensive weapon systems.

Although most Third World nations acquire their weapons systems from several sources, the most likely or volatile trouble spots are typically Soviet-supplied. Therefore, we will restrict our discussion here to those Soviet-developed and exported systems which could pose the greatest threat to transport aircraft operating in a low intensity conflict situation throughout the remainder of this Century. Essentially, these systems, briefly described below, are those designed to enable ground forces to achieve air superiority over a battlefield.

- o The ZSU-23-4 AAA gun is a point defense weapon with an effective range of 2500 meters. Under Soviet tactics, these systems are normally deployed in pairs about 400 meters behind the leading ground elements. A replacement system is under development which may be based on the 30mm Gatling gun currently operational on new Soviet aircraft carriers. Although the new system would possess greater firepower, increased range, and an improved fire control radar, the ZSU-23-4 AAA would be the system encountered most frequently in a LIC.



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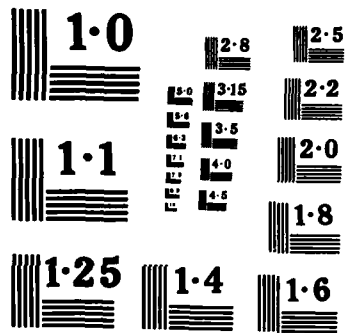
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- o The SA-9 and SA-13 are infrared-guided SAMs with an effective range of 5 to 8 kilometers at altitudes from 10 to 5000 meters. These systems are classified as area defense weapons. Since the SA-13s are replacements for the SA-9s, the SA-9s will probably be encountered more often in lower level conflicts involving Third World countries.
- o The SA-7, a shoulder-fired infrared missile, will be frequently encountered, and can be expected to be deployed in large numbers. The SA-7s have a range of approximately 3.5 kilometers which gives them the capability to engage any low-flying aircraft that penetrates the other air defenses. These systems could be used to provide close-in air defense in rear areas and for protecting command posts and SA-4 missile launchers. A replacement for the SA-7 is expected in the near future. Consequently, greater numbers of these systems should find their way to Soviet-supplied states over the next decade.
- o The SA-6 has a range of 23 kilometers and is effective at altitudes of 50 to 12,000 meters. This system is being replaced in the Soviet inventory with the SA-11.
- o The SA-8 has a range of 12.5 kilometers between altitudes of 50 to 6,000 meters. The Soviets are expected to replace this system within the decade.
- o The SA-4 SAM system has an effective range of 80 to 100 kilometers at altitudes of 150 to 25,000 meters. The SA-12, currently undergoing testing in the Soviet Union, is considered a likely replacement for the SA-4.
- o The SA-5, recently deployed in Syria, has a range of 185 miles.
- o The MIG-23 and MIG-25 represent the greatest interceptor threat to airlift operations. Both aircraft are capable of speeds of MACH 2.0 and may be armed with air-to-air radar missiles capable of engaging targets 20 miles away. Other armaments include infrared air-to-air missiles and a 23mm cannon.

A particularly ominous concern for the future is the mounting reports of chemical/biological weapons use by the Soviets in Afghanistan, the Vietnamese in Laos and Kampuchea, and by the Iraqis in Iran. Called the "poor man's atomic bomb," chemical/biological weapons may be supplied by the Soviets, but can be manufactured fairly cheaply and without elaborate laboratory facilities. The future pervasiveness

of such weapons is therefore considered a significant threat to American interests and to the U.S. military in a future conflict. Accordingly, the U.S. military is improving its ability to survive a chemical/biological attack. Still, much remains to be done to ensure the survivability and continued operation of both ground and air forces personnel and contaminated equipment.

#### ENHANCED AIRCRAFT SURVIVABILITY IS ESSENTIAL

Enhanced aircraft survivability features will, therefore, be essential if transport aircraft are to operate in this anticipated threat environment. Previously, MAC has been limited to enhancing airlift survivability in the tactical environment through the use of low-level flight tactics to shield the aircraft from radar and visual detection. This tactic affords some degree of success against radar-guided weapons and troop concentrations whose positions are known, but is highly dependent on current intelligence data to avoid the threat. Further, avoidance of the shoulder-fired IR missiles and highly mobile radar threats cannot be assured. Moreover, current airlift aircraft have neither the speed nor maneuverability to significantly evade a threat once detected.

Technologies for enhancing aircraft survivability are rapidly becoming available. Some of the more promising technologies include:

- o Threat detection/avoidance systems (warning receivers, on-board route planning).
- o Radar cross section and other signature reduction systems.

- o Countermeasures (jammers, expendable, defensive systems)
- o Improved vulnerability through dispersed structural elements/subsystems, fault tolerant digital/fly-by-light controls, and lightweight armor.
- o Nuclear, laser, biological, and chemical protection systems.
- o High maneuverability at high and low speeds.

### **TACTICAL AIRLIFT MISSIONS**

For the future, we do not expect the Air Force to make major changes to the general tactical airlift mission stated in the Introduction to this paper. We do, however, expect that the increasing prospects for U.S. involvement in low intensity conflicts in defense of our geostrategic interests and the growing pervasiveness of threat systems could expand both the need for tactical airlift and its character, while simultaneously limiting the scope of such operations. Still, while acknowledging that future operational conditions will pose many unknowns, it does seem certain that a low intensity conflict situation will produce many operational conditions that can be met only through the effective utilization of the inherent flexibility provided by tactical transports as was the case in Vietnam (Figure 3):

Airlift operations in Vietnam were performed under the most primitive and austere conditions, surpassing all previous major airlift operations combined...but, there was no alternative...airlift was the most reliable, secure, and responsive mode of transportation.  
(Reference 10)



Figure 3. Tactical Airlift Operations in Vietnam

Given the long logistical tail anticipated for low intensity conflict operations and the corresponding increased potential for interdiction, the tactical airlift force must be even more responsive and effective at any level of conflict and throughout a wide spectrum of climate, terrain, and combat conditions than in the past. Whether under routine or emergency conditions, tactical airlifters, as depicted in Figures 4, 5, and 6, will continue to increase battlefield mobility and combat effectiveness in land combat operations by providing the capability to land or airdrop combat elements, then provide these forces with logistics support.

Also, in an extension of the resupply role, tactical transports may, as they did in Vietnam, serve as "bladderbirds," and be used in establishing Forward Area Rearming and Refueling Points (FARRPs) to

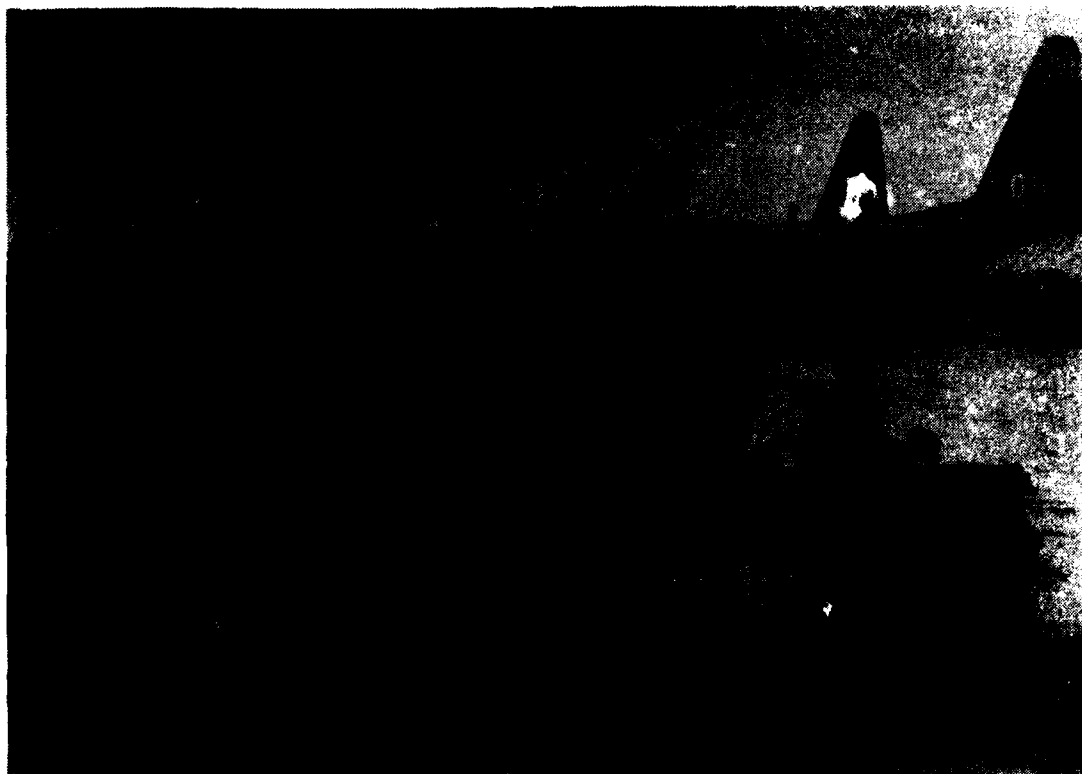


Figure 4. Troop and Equipment Moves

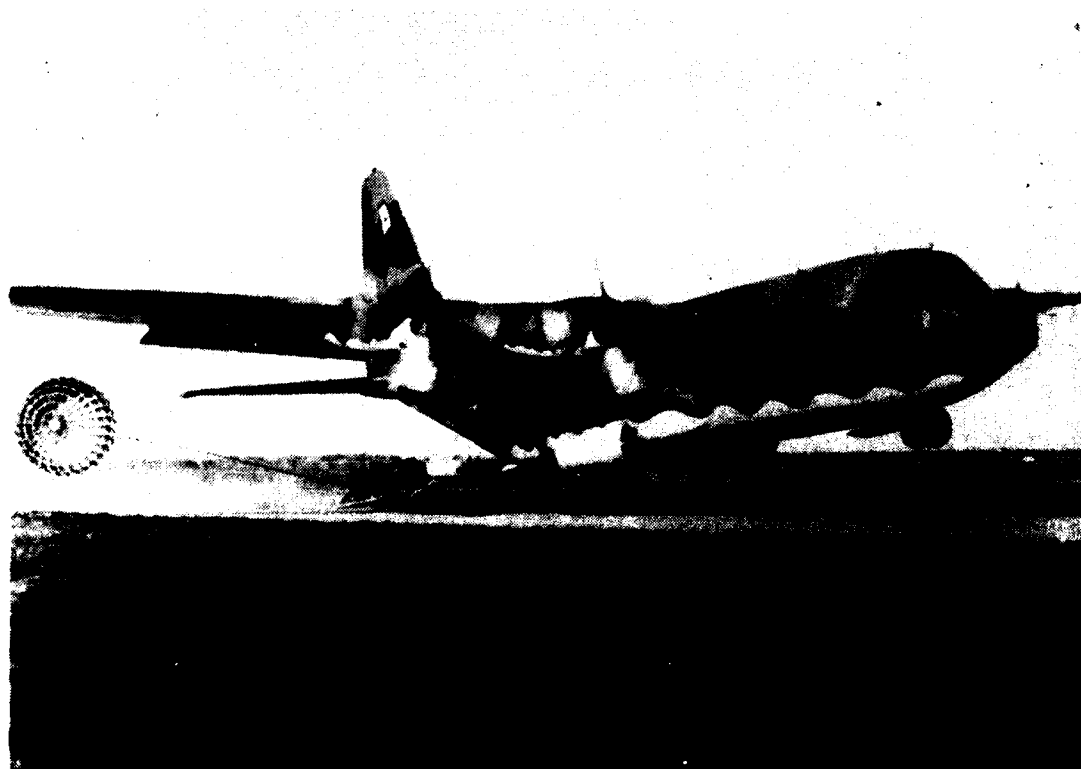


Figure 5. Low Altitude Parachute Extraction (LAPES) Maneuver

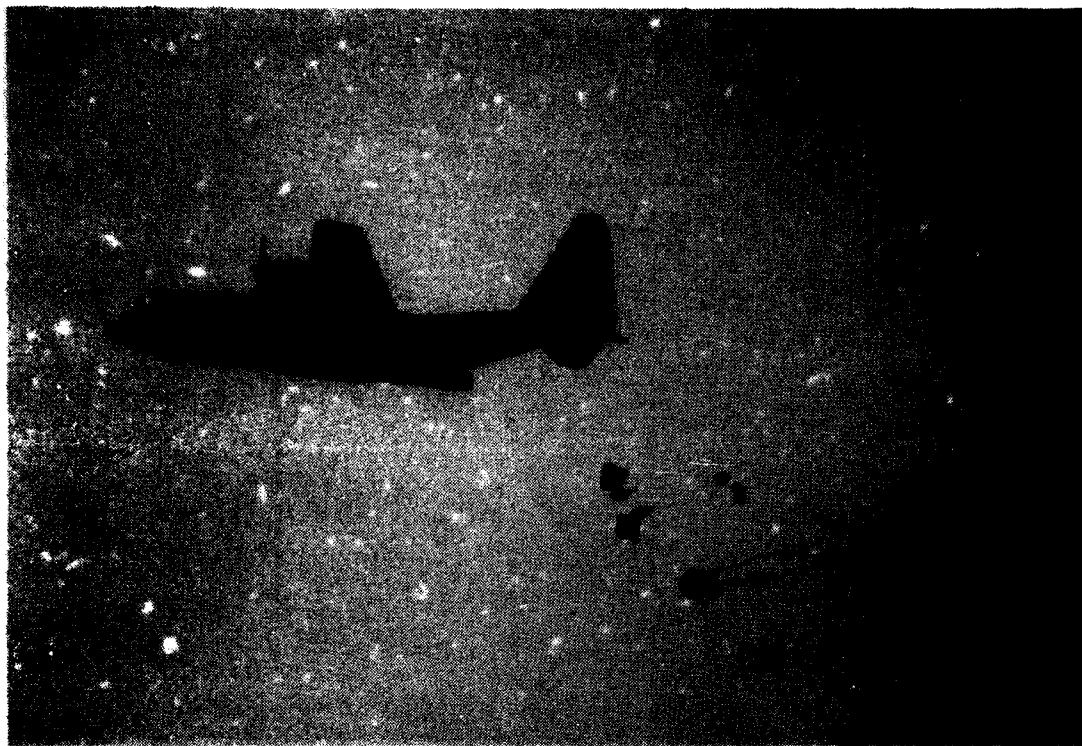


Figure 6. Airdrop Operation



Figure 7. Aeromedical Evacuation



provide fuel for helicopters at forward operating sites.

Another important mission carried out by tactical transports, illustrated in Figure 7, is aeromedical evacuation. Since low intensity conflicts are typically not characterized by a fully developed combat capability with field hospitals, aeromedical evacuation of patients to distant hospitals in adjacent Allied nations, or to transfer points for return to CONUS, will be especially critical in such conflict situations.

Consequently, although the intensity of the threat is expected to be greater than in the past, the long-standing dependence on tactical airlift will be greater as well and may, as discussed earlier, be expanded upon as a result of current and evolving changes in doctrine, force structure, and operational concepts within both the Army and the Air Force.

## MERGING PAST, PRESENT, AND FUTURE

### Lessons Learned--Korea

The current emphasis on fielding a credible conventional force capability tasked with deterring, or if deterrence fails, containing peripheral or low level conflicts before they escalate into higher level or full scale war, is not without precedent. Rather, despite the long-standing U.S. preoccupation with preparing for a full scale war in Europe, low and mid intensity conflicts have been the predominate type of conflict since the Second World War. In fact, the initial impetus for a "rapid deployment" capability was the Korean War--a conflict in which the United States, unable to deploy its forces into Korea rapidly

enough to stymie the initial Communist advances, was forced to spend the first year of the war recouping lost ground. Ultimately, Korea evolved into a protracted battle that came very close to becoming a superpower confrontation.

It is important for our discussion here to note that a major by-product of the "lessons learned" from the Korean War was the acquisition of two new transport aircraft--one strategic, the C-133 "Cargomaster"; the other tactical, the C-130 "Hercules." This fact is particularly relevant today because while the United States has significantly modernized and expanded its strategic airlift force through the acquisition of the C-141 and C-5 strategic transports, the tactical transports that are to provide the tactical mobility required on the modern battlefield, are, with some modifications, the same transports that were developed to support the Army's needs in the 1950s--the venerable C-130s. (Reference 11)

#### The C-130 Today

While the majority of the C-130s in operation in the active and reserve forces today are by no means ready for retirement, there is a growing, but as yet unquantified awareness that the Hercules may not be able to provide the military the combat flexibility so essential on a modern battlefield, or the versatility to operate across the spectrum of conflict levels envisioned for the future. That awareness, though temporarily gaining high level attention during the Vietnam War, is becoming far more wide-spread today, and has, in fact, produced a number of tactical mobility studies which are currently in progress within DoD and the Air Force, as well as at the Lockheed-Georgia Company.

Still, should budgetary constraints again preclude the development and acquisition of an all new tactical transport aircraft, there are numerous cost-effective upgrades that may be made to enhance the C-130 and improve its operational utility in a future conflict. For instance, two C-130 derivatives were recently identified in a joint study made by Lockheed-Georgia, General Electric, and Hamilton Standard. The two aircraft--a Wide-Body STOL (WBS) C-130 and an Assault C-130--will offer an improvement over the basic C-130 in three primary areas: (a) greater payload capacity; (b) improved takeoff and landing capabilities; and (c) enhanced survivability features.

With respect to design features, the main difference between the WBS and Assault C-130 is the WBS's larger fuselage cross-section; otherwise, both share numerous design improvements such as highly modified wings, control surfaces, and a General Electric GE34 turboshaft engine coupled to counter-rotating Hamilton Standard propellers.

Mission-specific differences are briefly described below.

#### **Wide Body STOL C-130**

The internal cross section of the WBS measures 135.6 inches high, 140.4 inches wide, and 663 inches long. The cargo floor can support heavier loads than the basic C-130 or the Assault C-130. The increased cargo capability permits the WBS to carry such items of Army equipment as 155mm howitzers, UH-60 Blackhawks, and seven versus five standard pallets. According to Dallas Ryle, Chief Advanced Design Engineer at Lockheed-Georgia, "the tactical support mission of the C-130 WBS would have the aircraft flying over 1,000-nm radius operations with payloads up to 65,000lb. The aircraft could deliver the payload into paved or unpaved, bomb-damaged rear area airfields with runway lengths of 3,000

ft." (Reference 12)

#### **Assault C-130**

Although the Assault C-130 would have the same fuselage dimensions as the basic C-130, the Assault version is designed to land in about half the distance of the C-130H with the same payload. As envisioned, the Assault C-130 could be "used to support light divisions into enemy areas with rough landing fields as short as 1500 ft on a 103F degree day. The aircraft could carry a maximum of 44,000lb of payload...and would have a mission radius of 500nm." (Reference 12)

The proposed modifications to the C-130 described here were developed to enable the C-130 to better meet the military's future combat needs. Many of the design improvements, however, reflect specific requirements derived from the "lessons learned" from tactical airlift operations in the Vietnam conflict.

#### **Lessons Learned--Vietnam**

The long and difficult Vietnam experience was the primary impetus behind a tactical airlift modernization effort that, despite eight separate program attempts over the past 20 years, failed to result in a production program.

The first attempts, beginning in the early 1960s, focused on the development of a combination vertical/short takeoff and landing (V/STOL) aircraft that would enhance tactical airlift's capability to operate into and out of small, austere forward airfields such as those routinely encountered in Vietnam. When it became apparent in the late 1960s that the V/STOL technology could not support the Air Force's requirements, and when key players in the Air Force airlift community began to speak

forcibly for light and medium STOL transports, the Air Force abandoned V/STOL and turned its attention to STOL. The Air Force's 20-year pursuit of a "pure" tactical transport aircraft, however, was brought to an end in 1979 when the AMST was cancelled in favor of a dual role (strategic/tactical) C-X airlifter. (Reference 11)

Now that interest in tactical airlift modernization is again surfacing, interest in the lessons learned in the Vietnam conflict with respect to tactical airlift operations and requirements is also growing.

Accordingly, while current concepts for a LIC are designed to avoid involvement in a protracted, enclave-type conflict such as Vietnam, a review of tactical airlift operations in Vietnam was conducted as part of our tactical airlift needs analysis. This study, in conjunction with our assessment of the likely implications of changing doctrine/operational concepts, force structure, and threat environment in low intensity conflict situations provided the basis for the preliminary list of future tactical transport requirements detailed below. These requirements will be expanded upon and refined throughout the course of the tactical airlift analysis effort.

#### PRELIMINARY REQUIREMENTS

1. Unprecedented Survivability Provisions--The growth in fighter and ground air defense threats is becoming so formidable that effective provisions will be needed even when protective air cover is provided for transport aircraft. "Leakers" will probably represent too high a threat level to permit continued use of today's C-130s. A full range of offensive and defensive systems will probably be needed.
2. Exceptional Takeoff and Landing Performance--This has been a persistent Air Force yearning over the past 20 years. Under today's emerging doctrine and even more so under future concepts, the need to rapidly move and resupply units and their equipment on a battlefield indicates that the flexibility of landing at almost any location will probably be a high priority requirement. The spectrum

which needs to be examined is from 3000 feet down to VTOL (vertical takeoff and landing) and must include "hot and high" conditions.

3. All-weather, Day/Night Precision Airdrop/Extraction--Vietnam experience showed that this capability was very worthwhile. In the early days of the war, the lack of an effective capability severely restricted operations. In the later years, new techniques and hardware were developed which improved operations. In the future, where night and adverse weather combat operations will be more prevalent, this capability will be a necessity.
4. Rapid and Effective Cargo Handling Capability Integral to the Airlifter--Past experiences present a very clear mandate for this capability. It would be especially foolhardy to expect that austere and hastily prepared landing sites used in future operations would have the right amounts and types of materials handling equipment to quickly offload the airlifters. A cargo handling capability integral to the airlifter will be needed which will provide the cargo in a form and fashion that the receiving troops can readily process. A 7000lb 463L pallet of ammo resting on the ground will not be acceptable. The method chosen must not prolong the unloading/transfer process and place at risk both the airlifter and the receiving unit.
5. Runway Independence--Future tactical airlifter aircraft must minimize landing dispersions in order to reduce airfield construction requirements and/or to permit use of existing roads. Landing dispersions on the order of +25 meters longitudinally and +2 meters laterally appear to be realistic goals, and, with the aid of landing devices should be readily obtainable even in substantial crosswinds.
6. Quick and Expedient Tactical Fuel Delivery--Vietnam operations demonstrated the feasibility and combat payoff from C-130 "bladderbirds." With the very high POL usage and rapid movements that will characterize future combat operations, this capability will be a must.
7. Long-range/radius of Operation--Instead of the 500nm nominal upper limit that generally has existed in previous efforts, the future radius of operation may approach 1500nm and 2000nm because of the need to operate in theaters such as Southwest Asia where distances are great and little ground transportation infrastructure exists.
10. Operations in Contaminated Environments--While nuclear, biological, or chemical weapons are not expected to be employed in a LIC, the ever-present threat nevertheless remains. Such contamination could totally shut down tactical airlift operations unless special protective features were available on the airlifter. This will be an especially tough requirement to meet, but may be an essential need in the future.

11. Durability Under Very Harsh Operating Conditions--The low altitude, short flight and rough airfield environment in Vietnam fatigued the C-130 center wings and led to their eventual replacement. The future environment will probably be harsher and durability under expected conditions must factor.
12. High Degree of Supportability Under Combat Conditions--Vietnam experiences again demonstrated the need for an airlifter unencumbered by extensive and complex support requirements which can severely limit tactical flexibility. Current and future warfighting doctrine reinforce these very important needs. Factors of importance include very high reliability, maintainability, and availability; combat damage repairability; damage tolerant structure; and on-board support equipment, spares, and tools. High sortie generation rates will also be an important consideration.
13. Effective Communication Interfaces--Early in the Vietnam conflict and in subsequent operations, severe problems existed with communications interfaces between the airlifters and the ground troops. In the future, effective interfaces will be required for instant secure communications between airlifters and both their own command and control structure and ground forces.
14. A Cargo Compartment Sized to New Light Divisions--The correct focus for sizing a future tactical airlifter appears to be the Army's new light divisions (the 10K Division and the HTMD) and their required support forces. This will probably dictate a compartment slightly larger than that of the C-130. The in-theater air movement of outsize combat equipment is very rare, and usually an emergency operation; such a situation should, therefore, justify risking a strategic airlifter.
15. Acceptable Air Crew Work Load--The future environment will undoubtedly be very demanding of the system managers--the air crew. Means must be provided to make the air crew work load acceptable without compromising the system performance under difficult conditions. Advanced flight stations will be essential.
16. Affordability--One of the important needs in Vietnam was sufficient numbers of tactical airlifters to satisfy both the routine and emergency missions. In light of the very tough requirements that are evolving for future tactical airlifters, the need for a large number of aircraft could make affordability a major consideration.

## SUMMARY

Figure 8 graphically portrays the spectrum of conflict and the likelihood and risk associated with each level. The long-standing U.S. preoccupation with preparing for a high intensity conflict has now been tempered by the strategic realities forced upon the United States in Teheran in November 1979. A fair summary of those strategic realities and the United States' position in the world today was provided in a recent article in Military Review:

The United States is **now** involved in a series of smoldering low-intensity conflicts across the globe which neither the nation or the Army is fully prepared to cope. They are located in the developing nations where our national interests have been, and are being, steadily and directly eroded....While it can be argued that, in isolation, a single episode poses no significant threat to the United States, the cumulative effect of these subtle but growing challenges to US interests places us at considerable risk--**now**. (Reference 4)

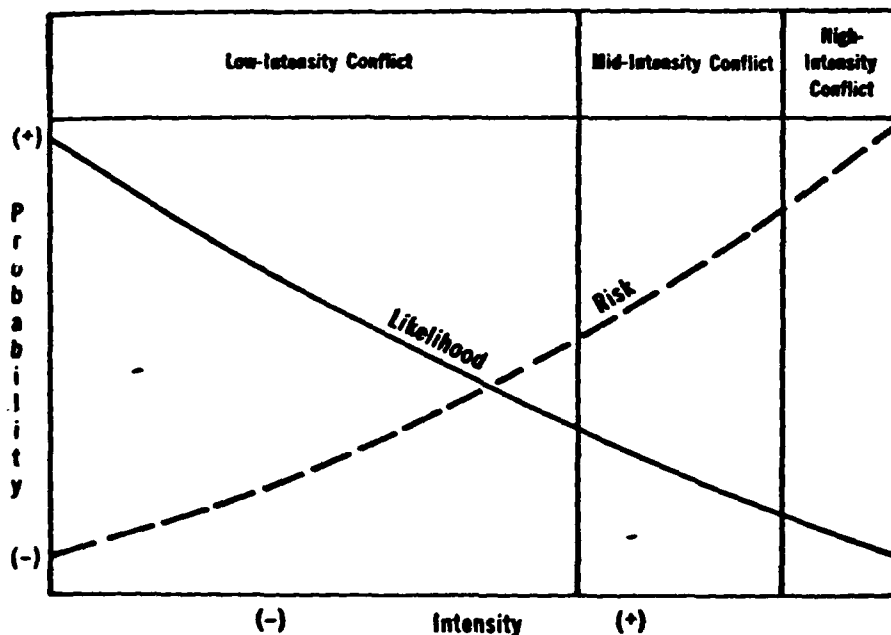


Figure 8. Conflict Level and Probability

(Source: Military Affairs,  
November 1984)



As discussed throughout this paper, the U.S. military is taking numerous steps to enhance its capabilities to deter, or if deterrence fails, to successfully defend its global strategic interests. Modernizing and updating doctrine, operational concepts, and changing force structures, complemented by the introduction of many new weapons systems will enable the U.S. military to better "cope" with the challenges of the future.

Accordingly, given the potential for an expanding tactical airlift role in future conflicts, a new tactical transport, incorporating such features as those presented in the preliminary requirements list above, could significantly enhance the effectiveness of the U.S. military at all levels of future conflict.

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REFLECTIONS ON COUNTER-GUERRILLA TACTICAL AIR OPERATIONS

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# I

## INTRODUCTION

The Vietnam War made the United States painfully aware of how a relatively few dedicated individuals could paralyze and frustrate a modern, conventional army. The North Vietnamese guerrilla's ability to stalemate the United States' military forces demands we reexamine our conduct of warfare against guerrilla tactics.

This paper addresses the Air Force's role in counter-guerrilla operations. It briefly describes the guerrilla's goals and his strategy to obtain those goals. The paper then defines a basic operational strategy to defeat the enemy. This section concentrates on four stages of operations. The stages consist of clearing an area, holding the area, winning the population, and releasing the area from government restrictions. (1:112) Section two and section three establish a basis of reference for the fourth section which outlines the four Air Force missions most applicable to defeating guerrilla warfare. The paper examines airlift, reconnaissance, close air support/battlefield interdiction, and psychological operations, showing historical uses in counter-guerrilla operations. The summary shows how the Air Force can use the four missions to defeat the guerrilla's strategy described in section two and support the overall friendly strategy outlined in section three.

## II

### THE GUERRILLA'S PHILOSOPHY

All warfare is based on the concept of attacking the enemy when he is weak and avoiding attack when he is strong. Guerrilla warfare is no different. This section studies the guerrilla's goals and the strategy he employs to implement those goals.

Mao Tse-Tung stated that guerrillas have three primary functions. Those functions are: to conduct war on exterior lines, to establish bases, and to extend war areas. (2:7) The guerrilla initially avoids contact with the enemy's main force, preferring to strike at the enemy's flanks and rear. These attacks serve to disperse and exhaust the enemy until he is eliminated. The guerrilla initiates his actions outside the adversary's areas of control. The adversary's manpower in these areas is generally sparse and can be intimidated by the guerrilla's attacks.

When the guerrilla gains control of an area, he establishes a base. From this base of operations, he will attempt to recruit new personnel, gather supplies for his troops, establish intelligence gathering networks, and provide a jump-off point for expansion into other areas. Mao states that once the bases are established, the insurgent movement must try to extend the war zones and to repeat their previous victories. (3:42) Eventually, the guerrilla will be able to establish orthodox forces which can challenge and defeat the enemy's army.

The guerrilla follows a basic strategy to achieve his goals based on alertness, mobility, and attack. (2:7) He must be alert to his environment. The insurgent is aware of the enemy's situation to include numbers, equipment, and emotional disposition. He must be ready to attack when the enemy is undermanned,

overextended, or demoralized. The guerrilla constantly takes advantage of his terrain. (5:157) Generally, the rougher the terrain, the better the guerrilla's situation. It is difficult for enemy troops to effectively patrol rough terrain. These troop's efforts are further confounded by the guerrilla's superior knowlege of the terrain. The guerrrilla also uses the elements to his advantage. Rain, fog, and snow provide excellent cover for the insurgent's movements.

The guerrilla must be mobile. This implies he carries minimum equipment, living off the land and the populace. Mobility increases the guerrilla's potential to surprise the enemy, which in turn increases his ability to take the initiative and win the engagement. Because the insurgent is lightly armed, he can move with great speed. Speed is survival for the guerrilla. (5:156) He must be able to attack quickly. If during the attack or between attacks the opponent becomes overpowering, the guerrilla must evade the enemy and survive to fight another day.

Above all things, the guerrilla strives to maintain the attack. Mao Tse-Tung summarizes the guerrilla's aggressiveness in the following manner (3:46) :

"..avoid the solid, attack the hollow; attack; withdraw; deliver a lightning blow; seek a lightning decision. When guerrillas engage a stronger enemy, they withdraw when he advances; harass him when he stops; strike him when he is weary; persue him when he withdraws."

This constant pressure is designed to fracture and demoralize the enemy. The guerrilla chooses his time and place of attack. The guerrilla likes to strike at night, increasing his chances of survival and the enemy's terror. Because the enemy is always on the defensive, he has few opportunities for revenge, further demoralizing him.



### III

#### GENERAL CONDUCT OF ANTI-GUERRILLA WARFARE

As the previous section describes, the guerrilla can be an irritating and potentially devastating foe. The enemy's identity is generally unknown, allowing him to mix freely and unnoticed with the general population. If the government places unfair or cruel sanctions on the public, they stand to alienate the public and further the guerrilla's cause. Strict government restrictions coupled with guerrilla terrorist activities will cause the people to reject the government if conditions are left unchecked. Sir Robert Thompson describes four basic operational concepts based on clearing, holding, winning, and won that can check this self-defeating cycle. (1:111)

The government's first objective is to develop a coordinated plan that establishes priorities and provides a framework for all government actions. This is essential if the government is to maintain a good perspective throughout the conflict. Because the government forces are limited, the leadership must decide which areas receive a high priority for operations and which areas receive a low priority. (1:114) This is a difficult decision, but a necessary one if the government is to avoid overextending itself and being weak everywhere. (5:157) The government must reassure the inhabitants of the low-priority areas that it supports them. The friendly forces must use "show the flag" type operations to keep the guerrillas off-balance and to prevent insurgent claims of conquering the area. (1:114) Let's examine how the government should secure high-priority areas.

The first stage of operations is to clear the area. The guerilla's survival depends on his ability to move freely in an area. If the government

limits the guerrilla's movement, it limits the guerrilla's effectiveness. The government forces must saturate the area, thereby dispersing the guerrillas or forcing them to surrounding areas. (1:111) This phase of the operation is very dependent on good reconnaissance and intelligence. The enemy must be contacted frequently. The patrols making contact must be able to fight and move in the same element as the guerrilla. This implies that they are not overloaded with equipment and are mobile. Patrols denying guerrillas the time and place of attack, deny the guerrillas the advantage.

After an area is cleared, the government must hold it. This is the most difficult stage of operations because the enemy's forces will constantly try to infiltrate the area. Holding requires the government to protect the people as well as reassert their authority. If the government is unable to provide protection, the people lose their trust and the guerrilla has an easier time of recapturing the area. The government must control the people's movements and the movement of resources. (1:112) These actions are necessary to destroy the insurgent's infrastructure and moral support in a community. The government must isolate the guerrilla from the people sympathetic to the guerrilla's cause and from the people opposed to the guerrilla's cause. This prevents the population, whether out of acceptance or fear, from aiding the guerrilla.

The third stage of communist insurgency Thompson describes is "winning" the people. (1:112) Many times, this stage is undertaken simultaneously with the holding operation. The government seeks to build good will for itself with the people. One of the guerrilla's tactics is to discredit the government in the people's eyes. This is easy to do if the government is repressive. If the government supports the population, the guerrilla loses his legitimacy. Ideally, the government should avoid giving outright gifts and should concentrate on projects which stimulate the local economy and improve the standard of living.

Projects in this category include providing better livestock, seed, roads, and bridges. (1:113) The goal of the third stage is to nurture within the populace a commitment towards preserving the government because the government's survival is to their advantage.

The final phase of operations is when the battle is "won." (1:113) Several conditions must exist for the battle to be won. The populace needs to be on the government's side. The government should have cleared a sufficiently large area around the won zone so as to prevent guerrilla intervention. At this time, the government can lift the restrictions previously necessary to control and eliminate the guerrilla. This return to a normal environment coupled with continued government aid will encourage economic growth and public loyalty.

#### IV

#### THE AIR FORCE'S ROLE

The following section describes the Air Force's role in implementing the four basic operational phases. It shows how the Air Force can use airlift, reconnaissance, close air support/battlefield interdiction, and psychological operations to frustrate the enemy's goals and help defeat a guerrilla insurgency.

Logistics is defined in AFM 1-1 as "the principle of sustaining both man and machine in combat by obtaining, moving, and maintaining warfighting potential." (7:2-9) The nature of counter-insurgency warfare calls for long range patrols through hostile territory. These patrols must be able to move lightly and undetected to be effective. The greater the equipment carried on their backs, the greater their fatigue and the greater their probability of failure. This theory was well proven by the British patrols during the Malayan insurgency who often carried only three days rations at a time. (4:171) Their light loads increased their mobility, allowing them to successfully track and ambush the guerrillas. Their operations were made possible by airdrops of food and ammunition. The Air Force can examine these missions to better understand how its forces can aid a counter-guerrilla operation. A primary lesson is that airdrop operations do not necessarily require large aircraft. In fact, light aircraft or rotary-wing aircraft are probably more suited for the job. Light aircraft can be modified to operate off short, austere strips. (2:266) Light aircraft's low speeds make it easier for them to locate patrols in rough terrain. In this light, helicopters can also be very advantageous to the friendly forces since they can fly very slowly at low altitudes and only require a cleared area for airdrop operations when they find the patrol. Air Force

airlift operations should concentrate on developing techniques to locate patrols in rough territory and then accurately drop supplies to those patrols.

Airlift can also provide additional manpower when the situation demands it. The French Army showed that surrounding an area believed to contain an enemy base with airborne troops was an effective means to disrupt the enemy's actions. (4:171) Airlifting personnel allows the government to quickly mass its forces for attack, as well as rescue injured forces after an attack. Large aircraft can be well suited for airdrops in large scale operations. The United States used helicopters very successfully in Vietnam to move personnel for battle.

One can easily imagine that guerrillas will not sit placidly and allow aircraft to fly up to their door. The Air Force must use delivery techniques which do not alert the guerrillas to the aircraft and the patrols presence. (6:132) This allows friendly forces to maintain the initiative. Pilots must be able to find the patrols without alerting enemy personnel. Another perspective on airlift operations is they can be used to saturate an area with decoy overflights. This type of mission decreases the enemy's confidence as he constantly wonders if there is a patrol in the area and if he is about to be attacked. This constant pressure will keep the enemy moving defensively, leaving less time for him to be on the offense.

Air Force pilots performing reconnaissance missions provide invaluable information for troops on the ground in a guerrilla conflict. When food became scarce during the Malayan conflict, the insurgents tried to plant their own crops. Reconnaissance revealed the position of the field and the positions of the guerrillas. (4:168) Surveillance missions can be flown at night with good results. Guerrillas use the night to cover their movements. Dropping flares to illuminate an area containing guerrillas helps ground patrols to locate and destroy the enemy. (6:155) Even if the guerrilla slips past the patrols,

frequent use of flares can force the guerrilla to move at the government's will, thereby increasing his level of anxiety and fatigue. He is more likely at this time to make a mistake and be killed or to become disillusioned and quit. Air Force aircraft can disperse seismic and acoustic sensors on trails or chokepoints. These sensors allow friendly forces to monitor enemy movements and plan appropriate friendly force reactions. Guerrillas carry out their operations in rough terrain, generally unfamiliar to the patrols seeking them out. One of the most important functions air forces can provide in this situation is telling a "temporarily disoriented" patrol where they are located. (6:132)

Close Air Support (CAS) aids surface operations by attacking hostile targets in close proximity to friendly surface forces. (7:3-4) CAS is the most glamorous and least frequent Air Force mission in a guerrilla conflict. Contacts with large enemy groups are very rare. The guerrilla keeps his base locations secret. However, when the enemy is found massed, CAS forces provide the most effective means to concentrate firepower on a given area. Somewhat related to CAS missions are battlefield interdiction (BI) missions. In these missions, Air Force personnel will use intelligence gathered from air or ground sources to search out and destroy enemy targets. These actions might include direct attack of an enemy convoy or base camp. Another option is dispensing anti-personnel mines in order to deny the guerrillas an area. Restricting the guerrillas potential area of movement increases ground forces probability of contacting and killing the guerrilla. Because supplies and equipment are so important to the guerrilla, interrupting their flow or destroying them entirely is crippling to the guerrilla's efforts.

Psychological Operations (PSYOPS) influence the attitudes and behavior of hostile, neutral or friendly groups. (7:3-7) Guerrilla warfare's success depends on its soldier's political motivation. If the friendly forces can demoralize the

insurgents, they can effectively undermine the insurgency. PSYOPS operations in the past have been very effective. The Royal Air Force dropped millions of leaflets in Malaya encouraging guerrillas to give up their cause. (4:169) The results of this type of campaign must be understood in context of the government's goals. One cannot expect a single drop of leaflets to result in a large number of enemy defections. This is unreasonable and unlikely. Instead the Air Force must strive to drop many leaflets, many times in order to encourage a small but steady stream of defectors. (4:169) Defector's current intelligence information concerning the enemy's plans, strength, and location can prevent the waste of limited government resources. Hunger and substandard living conditions constantly remind the guerrilla he is at war. Aircraft equipped with broadcasting equipment, manned by a former and now well fed compatriot telling the guerrilla to put down his arms are an effective means of further demoralizing the enemy. (4:169) Air Force operations are in themselves, psychologically damaging to the enemy. The Air Force represents a high level of firepower and technology, reminding the guerrilla of his inferiority, and the government's ability to strike him at a moments notice.

Air Force pilots should know the troops they are supporting whenever possible. This helps the pilot form a bond with the troops. A pilot is more likely to make an extra effort to drop supplies to a ground force when he knows who they are, how they operate, and how his airdrop impacts on their mission. Ground patrols feel greater confidence if a pilot understands their methods of operation because they know he is less likely to do something foolish and ruin their effectiveness. (6:132)

## V

### SUMMARY

Guerrilla warfare places unique challenges on Air Force resources. The guerrilla always tries to maintain the initiative, attack when it's to his favor and fading away when it's not. Insurgents operate in small, lightly-equipped groups or as individuals. These type of operations are difficult to locate and destroy, if the government uses its resources unwisely.

The four missions described in Section IV are essential to defeating a guerrilla insurgency. Air Force airlift, reconnaissance, CAS/BI and PSYOPS missions disrupt the enemy's efforts and keep friendly ground forces supplied and able to win confrontations. Airlift provides men and materials to friendly forces during crucial battle junctures during the "clear" phase of operations. Airlift can supply items to improve the people's standard of living during hold and winning operations. The Air Force must use an appropriate mix of airdrop and airlift missions incorporating both light and heavy aircraft to keep its troops well supplied. The government will use reconnaissance and CAS/BI missions primarily during clear and hold operations. Both missions strive to disrupt the enemy by limiting his initiative. Once the guerrilla is on the defensive, the friendly forces can destroy him outright or disrupt his activities drastically. The Air Force should conduct psychological operations throughout clearing, holding, winning, and won operations. PSYOPS demotivates the enemy and results in a small but steady stream of defectors and information. Information concerning the guerrilla's locations and strength aides friendly forces by destroying the enemy's element of surprise and limiting his choice of actions.

The Air Force can play a vital role in defeating a guerrilla insurgency. Airlift, reconnaissance, CAS/BI and PSYOPS missions help isolate the guerrilla



from the population. Once isolated, government forces can destroy the insurgent by limiting his actions or can convert him to the friendly cause. This paper shows that the guerrilla is a vulnerable foe. The Air Force is an effective tool to exploit his vulnerability and save the government for the people.

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JOINT TACTICS, TECHNIQUES AND PROCEDURES: KEY TO JOINT TACTICAL OPERATIONS

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Traditional combat forces are organized and trained to fight in a major war, not low level conflict. That has generally been considered more the province of special operations-type forces. However, coping with low level conflict has long been recognized as a desirable additional capability for traditional forces. Indeed, traditional (albeit at times "elite") forces continue to be called upon to fight side-by-side with special forces in low level conflicts. Airpower can play a significant role in the success of these operations. In the Falkland Islands airpower provided much needed long haul logistics support which was critical to the effort, but the bulk of British men and equipment were deployed on, and employed from, ocean-going vessels. Airpower can and does offer more. Again using the Falklands as an example, Royal Navy and Royal Air Force Harriers provided fire support to the ground forces and air defense protection to both ground and naval forces.<sup>1</sup> More recently, airpower provided essential fire support from AC-130 gunships in the early moments of Operation Urgent Fury in Grenada. This, in addition to airlift and formidable fighter force available for air defense and close support of the ground troops.<sup>2</sup> As part of an integrated effort, airpower can provide the on-scene commander a unique capability for rapid, flexible response to his surveillance, air defense, fire support and battle management needs.

While these recent low level experiences ended with measured success for the United States and Great Britain, that success did not come without difficulties. In the British experience "...there were significant misunderstandings and failures of liaison between both commanders afloat and ashore and between the services."<sup>3</sup> The operation in Grenada was hampered by inadequate maps and mis-coordination led to friendly troops being strafed by Navy aircraft. In each of these operations, communications incompatibilities,

coordination difficulties and inadequate planning were evident. These and similar problems affect operations to varying degrees. They may merely result in irritation and delay; but they may end in unnecessary casualties for friendly forces. The fact that misunderstandings exist highlights the need for cooperation and coordination between the services.

It is axiomatic today that joint tactical operations, executed in harmony and mutually supporting, offer the greatest likelihood of success. Thus, it is probable that any combination of service forces may be called upon in low level situations. To that end, in developing and refining its capabilities each Service is bound to consider the employment of its forces within a joint force structure. In low level conflicts, where multi-service forces are often assembled on short notice, the value of being prepared to operate in harmony can not be overstated. It is imperative that those forces be capable of jointly operating and cooperating on the low end of the spectrum. In contributing to that goal each Service can be assured that its forces effectively add to the total military capability.

But elements of a multi-service force find it difficult to cooperate on the battlefield and fight as a coordinated entity. This is especially true at operator levels. Closer to the clash of opposing forces the coordination requirements of joint tactical operations increases dramatically. Lack of compatible communications nets, disparate and unfamiliar request procedures, or uncoordinated laser coding information between target designator and weapons launch vehicle can result in lost opportunity, loss of battlefield initiative and in the extreme - defeat.

In these situations the importance of executing on the basis of common principles is paramount. However, the first instance of actual combat is neither the time, nor the place, to work out the intricacies of joint planning,

coordination among different service elements or compatible communications links. If these and other details have not been previously agreed upon, and tested for validity, the outcome of an entire operation may be jeopardized. The potential of airpower can ensure operational success, but it must be applied in coordination with land- and seapower at all levels to be effective.

Some examples may serve to illustrate this requirement. Marine ground forces should be able to rapidly request fire support from Air Force tactical fighters. Army units should be able to request naval gunfire support. Naval and Marine attack aircraft should be able to receive Air Force Airborne Warning and Control System (AWACS) information. AWACS-derived air defense information should be available to Army and Marine ground forces. These and numerous other examples underscore the necessity for compatibility in techniques and procedures, and mutual familiarity with each others' tactics. Such understanding promotes efficacy in the use of each Service's capabilities in attaining common battlefield objectives.

Thus, where it is expected that multi-service elements will, or must, operate in close association with one another, there is a requirement for those forces to be trained in cooperative and coordinated employment principles - joint tactics, techniques and procedures.

Ideally, joint tactics, techniques and procedures would have the imprimatur of the four Service headquarters. However, agreement at such high levels of authority rarely occurs before completion of a process of lengthy negotiation and intense parochial scrutiny. In defense of this process, agreement on joint tactics, techniques and procedures may not be applicable to an entire Service. They may pertain only to certain types

of units, under certain circumstances. At a more appropriate level, agreement can often be achieved more readily by lower, tactical commands. Thus, the major tactical commands are the focal point for development of joint tactics, techniques and procedures agreements. They also serve as a convenient first step towards eventual joint agreement between the Services, when such agreement is recognized as appropriate.

This apperception has led Tactical Air Command (TAC) to be closely involved for several years with the US Army Training and Doctrine Command (TRADOC) in defining and developing joint tactics, techniques and procedures for use by US Army and Tactical Air Force units. Over the years, the TAC-TRADOC effort has been assisted by collaborative efforts of the US Readiness Command (USREDCOM), further broadening the impact of these joint agreements. In the past year a number of projects have been initiated with the participation of other commands, representing all four Services. The following discussion briefly addresses several of these past and current projects.

One of the more mature TAC-TRADOC programs is the Joint Suppression of Enemy Air Defenses (J-SEAD).<sup>5</sup> This program details the planning and execution responsibilities for Air Force and Army commanders to ensure that coordinated and effective suppression operations are carried out. J-SEAD operations are applicable to areas on the battlefield where Army and Air Force systems are capable of mutual support. The objective of such operations is to increase the overall effectiveness of friendly air and land operations by reducing the capabilities of enemy surface-to-air defenses and thereby reducing attrition of Army and Air Force resources. The J-SEAD agreement establishes primary execution responsibilities in suppression operations. The Army has primary execution responsibility for J-SEAD from the limits of observed fire to the limits of Army unobserved indirect fire



(cannon and rocket) capabilities. Beyond that point the Air Force is responsible for suppression operations, however, Army surface-to-surface systems may be used against long range threats. The Air Force is responsible for developing and distributing to both Army and Air Force units a localized surface-to-air defenses threat priority list containing enemy systems, by type, arranged in preferred suppression sequence from highest to lowest priority. This helps to ensure that a coordinated joint effort will be carried out against enemy surface-to-air threats. Army headquarters down to battalion level are responsible for planning Army suppression operations and coordinating for Air Force J-SEAD support consistent with the types of systems available and the priority of fires appropriate to the ongoing battle.

J-SEAD is accomplished by two categories of joint operations: campaign and localized. J-SEAD campaign operations are theater-wide operations conducted against specific, predetermined enemy surface-to-air defense systems. Localized J-SEAD operations are confined to geographical areas associated with specific ground targets. The key principles of J-SEAD operations have been agreed to by the Departments of the Army and Air Force in a Joint Service Agreement, signed in June 1984 by the two Chiefs of Staff. The agreement serves as an authoritative document on J-SEAD operations for both the Army and Air Force.<sup>6</sup>

Another established TAC-TRADOC program is Joint Air Attack Team (JAAT) Operations.<sup>7</sup> The JAAT is a combination of Army scout and attack helicopters working in cooperation with Air Force Close Air Support (CAS) aircraft (usually A-10's). The JAAT is formed as attack helicopters and CAS aircraft enter the battlefield area against the same target array. The team's success depends to great extent on the proper sequencing of assets and coordination between attack helicopters, CAS aircraft, Forward Air Controllers (FAC's)

and the ground maneuver commander. To facilitate this coordination the attack helicopter elements are directed by an Air Battle Captain (ABC) from a scout helicopter. The ABC coordinates the attacks of the attack helicopters and CAS aircraft based on the ground scheme of maneuver. In addition, he coordinates the use of Army indirect fire support, such as artillery, mortar or cannon fire. The ABC does not dictate attack methods. The CAS aircraft flight leader and attack helicopter section leaders control their individual elements.

There are three basic options used in employing the JAAT: Sector attack, sequential attack and combined attack. In sector attack the area of operations is sectored by the FAC and ABC. Sectoring includes the target area and avenues of approach. The attack helicopters and CAS aircraft provide mutual support while working within their own sectors. Sequential attack allows each element to work independently while maintaining constant pressure on the enemy. In the combined attack the elements of the team attack targets simultaneously using the same basic attack avenue. Ideally, the helicopters attack as the CAS aircraft approach the target. As the aircraft begin their attack the helicopters move to new attack positions, and attack again as the aircraft egress the target area. JAAT is a proven tactic that is practiced today by Army and Air Force units.

Several current TAC-TRADOC projects are being worked by representatives of all four services. These include Joint Application of Firepower, Joint Tactical Deception and Joint Laser Designation Procedures.

Joint Application of Firepower (J-FIRE) is a project to develop a single-source field guide detailing call-for-fire and request procedures of all four services. The guide will be a pocket-sized, weatherproof quick reference for field units. It will include each Service's fire

support organization, formats for artillery, mortar and naval gunfire calls-for-fire, air request and briefing formats, communications equipment and nets and points of inter-service communications interfaces. The reference will provide field units ready access to the procedures, request formats and communications links required to request fire support for extraordinary situations. In addition, it will assist units in routine requests for fire support by reducing the possibility of improper requests, request formatting and battlefield coordination requirements. It will be especially useful for units which may receive short notice tasking to coordinate with or fight in conjunction with sister service units. The J-FIRE reference is being developed by representatives of TAC, TRADOC, the US Army's Forces Command, US Readiness Command, Atlantic Command and the Marine Corps Development and Education Command.

Joint Tactical Deception is a project to develop a single source pamphlet on tactical deception operations with application to all four services. Presently, deception information is contained in service-specific publications. The Joint Tactical Deception program will consolidate this information under a single cover. The document will describe tactical deception operations in general terms applicable to all services. Service-specific chapters will outline command, control, organization and planning considerations for tactical deception. Use of this pamphlet will provide planners of all services with information on other services' deception capabilities, organization, request procedures and coordination requirements. The pamphlet will be applicable to joint and combined tactical operations. Its use will ensure tactical deception officers are familiar with the full range of deception capabilities and facilitate more effective joint service tactical deception operations.

Joint Laser Designation Procedures (J-LASER) is a project to bring under one cover a manual outlining the joint tactics, techniques and procedures for employing laser designators with acquisition devices and laser guided weapons. As the complexity of the modern battlefield grows, one of the most promising of the new technologies has been the development of laser systems with increased firepower and accuracy over earlier technologies. Because of the accuracies of laser guided weapons, fewer munitions are needed and a wide range of targets can be more effectively engaged.

The use of battlefield laser technology has developed in three primary areas; laser target ranging and designation systems, laser acquisition systems and laser guided weapons. Laser ranging and designation systems can accurately determine target range, azimuth and elevation. These systems may vary from handheld to aircraft mounted devices. Laser acquisition devices are used to acquire reflected laser energy. These devices are used in conjunction with laser designation systems to pinpoint targets. Laser guided weapons home on reflected laser energy during the terminal moments of flight. Such munitions are part of the family of precision guided munitions (PGM's). There are three requirements to use laser designators with laser acquisition devices or laser guided munitions: 1) The pulse repetition frequency (laser "code") of the laser designator and the laser acquisition device or laser guided weapon must be the same; 2) the direction of attack must be coordinated so the laser guided weapon can "sense" sufficient reflected laser energy; 3) the laser designator must be designating the target at the correct time. The J-LASER pamphlet details the planning and procedures necessary to accomplish these three requirements for successful employment of laser weaponry. Additional chapters cover specific planning considerations, tactics, laser coding procedures and safety factors. Publication of the J-LASER document

will foster tactical interoperability and a level of cross-support capability in laser weaponry that will allow effective and unified employment based on common procedures and techniques.

The characteristics of modern conflict require a multi-service balanced approach to successful tactical operations. Appropriate elements of airpower, landpower and seapower must be integrated to fight as a coordinated joint force. In this respect, low level conflict presents military planners with a microcosm of the problems associated with larger conflicts. Joint tactics, techniques and procedures ensure that these forces are trained from a set of common principles towards fighting together effectively. They provide an opportunity in peacetime to work out details of coordination, cooperation and integration so necessary to early combat success. The joint tactics, techniques and procedures of today enhance the combat capabilities and probability of success in employing joint forces in the future. The efforts of TAC and TRADOC are a beginning towards this goal. Broadening participation in this effort will provide air, land and sea combat elements which, when fighting together as a team, are more effective than the sum of their individual capabilities.

#### FOOTNOTES

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USAF SPECIAL OPERATIONS CAPABILITIES  
TRAINING AND COMMAND AND CONTROL

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Majors Stimer and Beres are assigned to the Deputy Chief of Staff Operations, HQ Military Airlift Command, Scott AFB, Illinois and as such are responsible for the conceptual development of tactics, planning, and execution of all CINCMAC special operations missions. Combined, they have over 20 years experience in all facets of the special operations mission.

Major Stimer is a senior pilot who began supporting SOF by flying C-123s from Phan Rang AB RVN in 1970. Since then he has had eleven years experience in the MC-130 and as a SOF Staff Planner. He was also an instructor at Squadron Officers School where he lectured on special operations. In addition, he was a guest speaker at the Air War College's Combined Air Warfare Course and the Army Command and General Staff College where he discussed SOF employment planning and command and control. He is a graduate of SOS, ACSC, and Air War College and has a masters degree from Troy State University.

Major Beres is a senior navigator who has flown AC-130s in Thailand, C-130s at Pope, and MC-130s at both the 1 SOS at Kadena and 8 SOS at Hurlburt. His diverse background in special operations includes positions as instructor and stan eval navigator, staff plans officer, and NAF staff special operations officer. He was a planner and aircrew member for the aborted Iranian hostage rescue mission. He is a graduate of SOS and ACSC and has been a guest speaker at the Army's Command and General Staff College, the Air National Guard's tactics symposium, and Airlift Operations School.



## AIR FORCE SPECIAL OPERATIONS

### INTRODUCTION

Upon commencement of planning for the US Iranian Embassy hostage rescue, the national command authorities and senior military leaders found themselves with an active duty Air Force special operations force that had shrunk during the 1970s to a total of 43 aircraft: 14 MC-130 transport aircraft, 10 AC-130 gunships, 9 UH-1N gunships, and 10 CH-3 helicopters. Of these, only 10 air refuelable MC-130s were capable of flying the distances involved. With the exception of this air refueling capability, aircraft capabilities and tactics had changed little since the end of the Vietnam war.

The present efforts to increase the capabilities of Air Force special operations forces (AFSOF) can be traced directly to the aborted attempt to rescue the American hostages held by the Iranians. Despite the innovative approach used by the mission planners with new equipment and tactics, the fateful collision between a Marine CH-53 and a C-130 in Apr 80 in the Iranian desert dramatically highlighted the failure of the United States military to maintain a viable force to counter low-level conflict or terrorism. The Holloway Commission Report on the rescue attempt (5;63-67) and the Air Force Inspector General's Special Operation Functional Management Inspection (2) provided a fresh look into special operations doctrine, tactics, procedures, and organization.

The major results of these efforts were the consolidation of Air Force Special Operations Forces (SOF) within the Military Airlift Command with its newly created 23 AF on 1 Mar 83 (4:1) and the development of an Air Force SOF Master Plan. In his 3 Oct 83 memorandum on Special Operations Forces which

directed the services to develop master plans, Deputy Secretary of Defense, Paul Thayer stated "US national security requires the maintenance of Special Operations Forces capable of conducting the full range of special operations on a worldwide basis, and the revitalization of these forces must be pursued as a matter of national urgency." (6:1) MAC acting as the single responsive command responsible for standardization of AF<sup>S</sup>OF tactics, techniques, and procedures, as well as carrying out those actions outlined in Air Force SOF Master Plan, is at the forefront of this revitalization.

This paper will discuss current SOF capabilities, training, command and control and force initiatives through 1990. These topics have been condensed from the Air Force SOF Master Plan. (7)

## CURRENT CAPABILITY

The current Air Force SOF capability under MAC can be divided into two categories: core and augmenting SOF. Core SOF are those assets whose primary mission is to conduct special operations. This includes the following aircraft and units:

- MC-130E (COMBAT TALON I). Thirteen primary aircraft authorized (PAA) are assigned to three active duty squadrons: the 8 SOS with five aircraft, the 7 SOS with four aircraft, and 1 SOS with four aircraft. The mission of the COMBAT TALON is to conduct a full range of infiltration, resupply, and limited exfiltration in hostile or enemy controlled territory using airland or airdrop techniques. The aircraft are equipped with precision navigation systems, terrain-following/terrain avoidance (TF/TA) radar, a high speed low-level aerial delivery system (HSLADS), radar warning receivers (RWR), and electronic countermeasures (ECM) equipment. The MC-130E is also night vision goggle (NVG) compatible permitting blacked out operations. Nine of the aircraft (CONUS and Europe) are configured for surface-to-air-recovery (STAR) which permits extraction of one or two persons or cargo up to 500 pounds. All MC-130s are air refuelable. Six are being modified to conduct in-flight helicopter refueling.

- AC-130 (SPECTRE Gunship). Ten PAA AC-130As are assigned to the 711 SOS (AFRES). They are equipped with 7.62mm, 20mm, and 40mm weapons. In addition, 10 active force PAA air refuelable AC-130Hs are assigned to the 16 SOS. The AC-130H is equipped with 20mm, 40mm, and 105mm weapons. AC-130 missions include providing close air support, perimeter/point defense, escort, surveillance, search and rescue (SAR), infiltration, limited exfiltration, armed reconnaissance, landing zone support operations, limited air-to-air fire

control, and limited airborne command and control. On-board sensors (infrared (IR), low-light-level TV, ignition detectors, and beacon-tracking radar) permit the aircraft to be employed at night, and under adverse weather conditions. ECM equipment makes it survivable in low to medium threat air environments.

- EC-130E. Eight PAA C-130E are assigned to the 193 SOG (ANG). Four aircraft are modified to an EC-130E VOLANT SOLO configuration for a primary mission of PSYOP. Four other C-130 aircraft are part of the unit and primarily support signals intelligence mission area.

- HH-53H (PAVE LOW III). Seven HH-53H aircraft are possessed by the 20 SOS. The HH-53H is air refuelable and specially equipped with precision navigation equipment, TF/TA radar, and infrared sensors which make it capable of adverse-weather, medium range infiltration/exfiltration of special operations forces. It can operate successfully in total darkness and adverse weather at altitudes down to 100 ft. When conditions permit, NVG can enhance the mission by permitting flight altitudes to 50 feet. This helicopter is armed with machine guns (7.62mm or .50 cal) for self-protection and limited, direct-fire support. The HH-53H can self-deploy using in-flight refueling or may be transported by C-5.

- UH-1N. Five PAA UH-1N aircraft are assigned to the 20 SOS. Four additional active PAA UH-1Ns are assigned to Det 1, 2 AD, Howard AFB, Panama. The UH-1N's primary mission is to conduct day/night VFR infiltration, exfiltration, reinforcement, and resupply operations. The aircraft is equipped with internal auxiliary fuel tanks and enhanced navigation equipment. When conditions permit, aircrews use NVG to conduct assigned missions under cover of darkness. When armed with machine guns (7.62mm or .50 cal) and rockets for self-protection and direct-fire support, the UH-1N can be used as

an armed escort to support air and ground operations. The UH-1N can be transported via C-5, C-141, or C-130.

- CH-3. Six PAA CH-3s are assigned to the 302 SOS (AFRES) and are organized, trained, and equipped for SO. The CH-3 is a twin-engine helicopter capable of infiltration/exfiltration of a 12-member force. It is armed with machine guns (7.62mm or .50 cal) for self-protection and direct fire support. It is the only core AFSOF aircraft that can land on water. NVGs are used when visual conditions permit, to allow lower safe flight altitudes. The CH-3 can be transported by C-5.

- Combat Control Teams (CCT). Within MAC all combat controllers are being trained to support SOF. CCTs provide SOF with a rapid reaction, special tactics trained force to conduct and support unilateral and joint operations. SOCCT may deploy by air, land, or sea and are usually employed in two- to three-man elements to preserve a low visibility or clandestine profile. Elements can task-organize into larger or smaller elements to augment other forces during joint operations. SOCCT can plan and conduct military operations to include:

- Performing limited offensive strike and demolition; e.g., offensive counterair (OCA).

- Establishing and controlling air assault zones in austere and non-permissive environments or forward area rearm/refuel points.

- Assisting strike aircraft by verbal control, positioning and operating beacons or other visual/electronic acquisition aids, target designation.

- Assisting in the extraction of forces; e.g. SAR and SERER.

- Providing HUMINT, airfield reconnaissance, and limited weather observations.

- Special Operations Weather Team (SOWT)--Teams are attached to 1 SOW and USAFE. Team members are parachute qualified Air Force Weather Service personnel capable of operating with AFSOF and other service SOF in remote, austere, hostile environments in any climatic condition. They plan, develop, organize, and maintain forward weather observation nets in either friendly or enemy areas and maintain a forecasting capability in the absence of normal weather data sources.

- Special Operations Photo Processing and Interpretation Facility (SOPPIF)--This facility, attached to the 1 SOW, is made up of personnel and mobile equipment providing limited photo processing and photo interpretation capability.

The following air assets are augmenting SOF:

- HH-53. Five combat rescue HH-53s with necessary aircrews are available for rescue SOLL (R-SOLL) tasking. These aircraft are modified with inertial navigation system (INS), NVG compatible cockpit, RWR, flares, and chaff. Eight more HH-53s have limited SO capabilities due to current equipment and aircrew qualification. These aircraft are self-deployable with air refueling or may be transported by the C-5.

- UH-60A. Eight combat rescue UH-60As with trained aircrews are available for R-SOLL tasking. These aircraft will possess NVG compatible cockpits, RWR, chaff, IR jammers, and doppler navigation equipment by FY 1/86. In-flight refueling capability is being programmed. These aircraft can be transported via C-5 and C-141.

- HC-130. Eight combat rescue HC-130s, with necessary aircrews are available for R-SOLL tasking. These aircraft are modified as aerial tankers and also have night vision goggle (NVG) compatible cockpits, RWR, chaff and

flares, and precision navigation equipment. Eight more HC-130s currently possess limited R-SOLL capability due to equipment and aircrew qualifications.

- HH-3E. Ten combat rescue HH-3s currently possess limited SO capabilities due to equipment and aircrew qualifications. The aircraft is self-deployable through air refueling or can be deployed in a C-5. This aircraft can also land on water just as the CH-3.

- C-130. Forty-five aircrews are special operations low-level (SOLL I) qualified to perform in a manner similar to MC-130 aircrews. Of the 45 crews, 12 are also qualified in the use of NVG during all phases of flight and ground operations (SOLL II).

- C-141B. Thirty aircrews are qualified to perform in a manner similar to MC-130 aircrews (SOLL I). Of the 30 crews, 9 are qualified in the use of NVG during all phases of flight and ground operations (SOLL II).

## TRAINING

The success of special operations missions is heavily dependent upon equipment capabilities, reliability, proficiency of personnel and the ability of services and units to work together in the joint arena. AFSOF are maintained at the highest state of combat readiness: first, by standardization and training to a level of proficiency commensurate with equipment possessed, and second, by high levels of interservice training. The obvious urgent issue is to train as we fight. (2:13)

Unit training is the basis from which joint training begins. Basic aircrew qualification and proficiency must be established before joint training can be effective. Nonflying activities such as detailed mission planning exercises are integral to basic qualification. The interdependence between the aircrew and the support areas is also stressed in day-to-day training so that intelligence, combat control, electronic warfare, mobility, and planning skills are effectively developed.

To increase the capability to respond to contingency operations and theater OPLANs, special operations, certain combat rescue and augmenting forces train to a common standard which incorporates core requirements of special operations. Consolidation under MAC takes advantage of mission and/or equipment similarities and establishes common special operations oriented training activities and standards for designated units, while training to a level of proficiency commensurate with the capability of the equipment possessed. This training enhances the wartime capability assets by improving equipment and joint capabilities. Thus the unified commander has greater options to respond to peacetime contingency and wartime requirements.



Since mission success depends on an understanding and confidence in each service's capabilities and procedures, repetitive joint training is the key-stone of readiness. The Air Force objective for joint special operations training is to have that training supported by AFSOF or special operations tasked assets rather than non-special operations tasked assets. This joint training is primarily conducted during the JCS exercise program supporting the Unified Commands. During FY 84, AFSOF (including both core and augmenting) participated in 37 JCS sponsored/coordinated exercises. In addition on a monthly basis, MAC supports over 135 short duration joint SOF training missions. (1:8-40)

Although not a training organization but an educational entity, the USAF Special Operations School (USAFSOS) at Hurlburt Field, Florida, is the single Air Force institution for classroom instruction on a wide range of special operations subjects which include unconventional warfare, foreign internal defense, dynamics of international terrorism, crisis response management, psychological operations, and others. The school currently serves not only the Air Force needs but the entire DOD, as well as other government agencies.

## COMMAND AND CONTROL

Diverse flying units have been integrated into AFSOF. In doing so, the Air Force has created a large force of both fixed wing and vertical lift assets from which a unified or task force commander can select the best available vehicle for special operations taskings. This assumes that crews are trained to a common standard within aircraft limitations as discussed in the previous section. In order to properly employ this diverse force, command and control structures must be articulated for peacetime, contingency, and wartime operations.

Unity of effort requires a clear statement of effective command arrangements and responsibilities. There must be a single air commander at each level in the chain of command. For special operations during wartime, contingencies, and exercises, the Commander, Air Force Special Operations Forces (COMAFSOF), directs, coordinates, and integrates the air effort through control of assigned and attached forces. In coordination with the commander of each unified commander and his air component commander, CINCMAC predesignates a theater COMAFSOF.

The 23 AF has detachments within the Pacific and European theaters to provide an interface between MAC, 23 AF, and the theater air component for planning, programming, and management of AFSOF in-theater units. The detachment commander is normally designated the theater Special Assistant to the ACC for Special Operations. In this capacity, he is the staff element through which the theater ACC exercises day-to-day OPCON of theater assigned/attached AFSOF. In wartime, contingencies, and exercises, the detachment commander's role is as liaison to the ACC for those forces whose OPCON was passed to a Joint Force Commander. The two existing detachments currently demonstrate a

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highly successful management concept; similar detachments will be established in other theaters by FY 1/87.

Operational command and control for Air Force SOF during peacetime resides with CINCMAC for CONUS assigned forces. Operational control is exercised by the theater air component commands (PACAF, USAFE, USAFSO) for those theaters assigned air assets.

Contingency command and control during crisis action, contingency and other responses generally require operational control lines which are more detailed. Normally, a unified commander will elect to employ AFSOF under a Joint Task Force (JTF), as a separate joint special operations task force (JSOTF), a JSOTF subordinate to a JTF or for missions of a long duration or in wartime, a Special Operations Command (SOC). Note: A unified commander has full discretion in organizing his forces for combat operations. As indicated there are numerous options available to the supported commander. Since AFSOF missions may be operating concurrently with conventional air operations, COMAFSOF coordination with the theater ACC is critical to insure there is no duplication of effort or conflicting operations. In addition, air route and target deconfliction are imperative to insure that AFSOF operations do not jeopardize other missions and vice versa. The JTF/JSOTF/SOC COMAFSOF, as appropriate, is responsible for airspace coordination and deconfliction of these air operations with the JTF and/or theater ACC.

## SOF IN 1990

What will the SOF look like in 1990? Actions currently funded or proposed primarily provide for upgrading present aircraft systems with the exception of the buy of 21 (19 PAA) new MC-130H COMBAT TALON II (CT II) aircraft. These aircraft will do the same mission as the present MC-130E but with state-of-the-art equipment that includes ECM, inertials and a self-contained precision instrument approach capability. The CT II will be a more maintainable and survivable aircraft than the CT I and should significantly increase SOF ability to conduct small-scale operations. The upgrading of present systems is aimed at making them more survivable while improving their capability to do the special operations mission. Improvements for C-130 (AWADS) in a SOLL II role are the adding of defensive systems, forward looking infrared, and NVG cockpits, in effect making them a low-to-medium threat COMBAT TALON except for the lack of ability to do high speed drops, air refueling, and surface-to-air recovery (STAR).

The C-141 SOLL II improvements include the addition of defensive systems, FLIR, and NVG cockpits. This will allow the C-141 SOLL II aircraft to fill a crucial void in the AFSOF for a long range, high speed, air drop/air land aircraft capable of operating in a low-to-medium threat environment. This improved C-141 brings with it the advantage of a large cargo area and world-wide signature.

HC-130 improvements include adding defensive systems, high accuracy inertials, NVG cockpits and improved radar while also converting 20 HC-130Hs to HC-130Ps.

AC-130H improvements include improved ECM, moving target indicators, ignition detectors and improved LLTV.

Though no new core SOF aircraft will be procured other than CT II before 1990, it must be remembered that the number of combat rescue aircraft will increase due to the transfer of AFSC assets and that combat rescue assets are proposed to undergo improvements to make them a more viable SOF asset. It should also be pointed out that current C-130 SOLL I and C-141 SOLL I capabilities will continue to improve with planned improvements such as SATCOM, secure HF, defensive systems and inertials for C-130s. These improvements coupled with good training can make these aircraft and crews a very viable low threat special operations force that can be used in low intensity conflicts. All these actions if funded mean that in 1990 the core SOF will be a relatively small capable force that will still require augmentation by both rescue and airlift forces to conduct many special operations. Both the core and augmenting SOF will be more survivable in low intensity conflict while mission success should be enhanced by efforts to improve communications and support capabilities. If the proposed improvements are not funded, the United States will find itself with a small, well-equipped core SOF too small in numbers to meet many crisis response scenarios without being supported by very vulnerable augmenting forces. This vulnerability of the augmenting SOF may well determine the success or failure of an operation.

After 1990 the AFSOF Master Plan calls for the acquisition of 76 JVX to support special operations. The emphasis on the JVX is most important. JVX is the key to meeting the entire spectrum of SOF airlift requirements. By adding vertical-lift capabilities to a fixed-wing aircraft, we can get the job done.

While the TALONs, with their 1000NM combat radius, cover the long infiltration missions, we're still short of meeting the long-range exfiltration requirements. That's because the longest range helicopters in today's force

can only cover a small percent of the SOF targets unrefueled. Said another way, the majority of exfiltration missions require one or more refuelings. However, simply adding tanker support is not the best answer. It's expensive and poses survivability problems in a hostile environment.

That's why the JVX is key to meeting overall SOF mission requirements and, in the case of exfiltration, is almost the only game in town. The JVX allows us to fly unrefueled to the majority of SOF targets, and in fact, provides a fourfold increase in capability over the helicopter. Thus by adding 19 PAA MC-130s and 76 PAA JVXs to our existing and programmed force, we will be able to meet the Special Operations long-range movement requirements. Proposals for follow-on AC-130 and MC-130s are also being discussed.

During this same period many of today's SOF aircraft will be nearing the end of their useful life. Unless these initiatives to procure new core SOF aircraft come to fruition, the President in the year 2000 could easily find himself as option limited as President Jimmy Carter did in 1980.

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